AMSTRAD ESPAÑA

AMIGOS DEL AMSTRAD

N.º 2. 295 PTS.

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AMIGOS DEL AMSTRAD

EDITORIAL

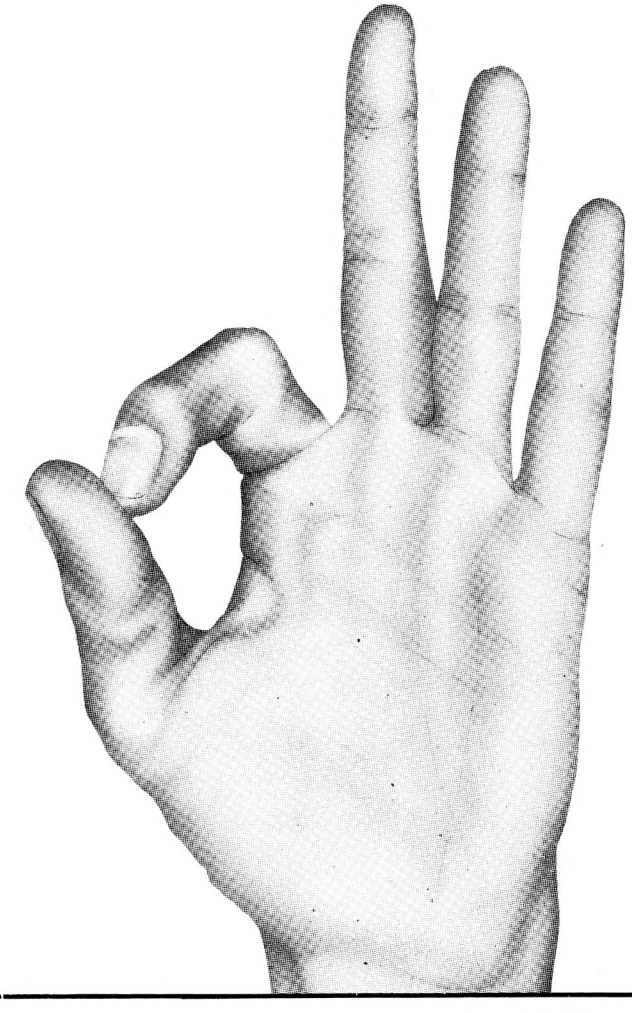
Tras un breve lapsus de tiempo, aquí estamos de nuevo con nuevos e interesantes programas para todos aquellos "AMIGOS DEL AMSTRAD".

Ante todo, comenzar agradeciendo el cariño con el que hemos sido recibidos por todos vosotros, y aunque se haya dicho muchas veces esto nos obliga a superarnos en ofrecer lo mejor cada mes.

En este ya nuestro número 2, os ofrecemos una serie de programas listados con mayor o menor dificultad, en los cuales podéis introducir una serie de cambios y mejoras, dejando de esta forma campo abierto a vuestra imaginación y vuestros conocimientos del ordenador.

Esperamos que os sean de utilidad e interés y, con vuestra voluntad y nuestra pequeña contribución, seáis capaces de elaborar poco a poco, programas cada vez más complicados.

Gracias y hasta el próximo mes.



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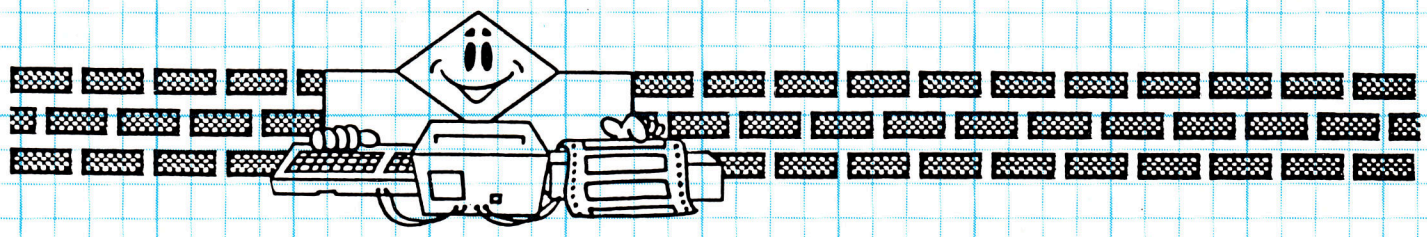


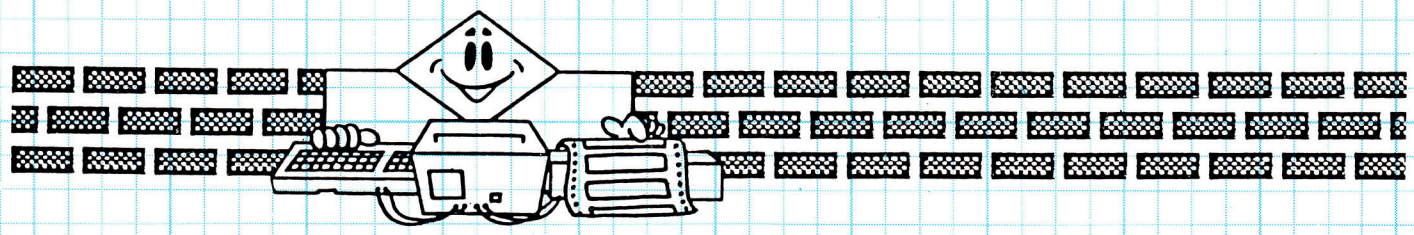
EXPLICACION DE LOS PROGRAMAS

PHANTOMFIRE

```
10 REM ***** PHANTOMFIRE ******
20 REM * ANGEL GARCIA DELGADO *
30 REM ********* G.T.S. *******
40 REM
50 MODE 0
60 INK 0,0:INK 1,26:INK 2,7:INK 3,18
70 PAPER 0:BORDER 0
80 ORIGIN 318,210
90 FOR a=0 TO 2*PI STEP PI/70
100 PLOT 0,0,2
110 DRAW 300*COS(a),150*SIN(a)
120 DRAWR 0,30*SIN(a),3
130 NEXT a
140 PRINT CHR$(22)+CHR$(1);
150 LOCATE 6,12
160 PRINT "PHANTOMFIRE"
170 PRINT CHR$(22)+CHR$(0);
180 INK 2,7,0:INK 3,0,18
190 FOR a=1 TO 300:SOUND 1,a,1,15:NEXT a
200 INK 2,18,7:INK 3,7,18
210 FOR a=300 TO 1 STEP -2:SOUND 1,a,1:SOUND 2,a*2,1:NEXT a
220 INK 2,7:INK 3,18
230 FOR a=1 TO 500:NEXT a
240 FOR a=0 TO 50:PRINT CHR$(7):FOR b=1 TO 50:NEXT b:NEXT a
250 MODE 1
260 GOTO 310
270 PRINT TAB(20-LEN(a$)/2):FOR a=1 TO LEN(a$)
280 b$=MID$(a$,a,1):PRINT b$;:IF b$<>" " THEN PRINT CHR$(7);
290 NEXT a
300 PRINT:PRINT:FOR a=1 TO 200:NEXT a:RETURN
310 REM *** INICIO DEL PROGRAMA ***
320 A$="<< PHANTOMFIRE >>":GOSUB 270
330 PRINT:A$="DESTRUYE A LAS NAVES ENEMIGAS QUE HAN":GOSUB 270
340 A$="OSADO INTRODUCIRSE EN TU ESPACIO AEREO.":GOSUB 270
350 PRINT:A$="PON LA NAVE A TIRO (SUENA UN SONIDO) Y":GOSUB 270
360 A$="ENTONCES PULSA -SPACE- PARA DISPARAR":GOSUB 270
```

```
370 PRINT:A$="PARA DESPLAZAR LA NAVE EMPLEA LAS":GOSUB 270
380 A$="TECLAS DEL CURSOR":GOSUB 270
390 PRINT:A$="PULSA -S- PARA EMPEZAR":GOSUB 270
400 IF INKEY(60)<>0 THEN 400
410 v=1:GOSUB 940:INK 0,26:PAPER 0:BORDER 26:INK 1,18:INK 2,19:INK 3,21:INK 4,0
INK 5,6:INK 6,15,5:INK 7,11:MODE 0:ENT 1,10,-1,1
420 ENV 1,30,-1,1:ENT 2,50,1,1
430 WINDOW #1,7,14,22,22:PEN #1,5
440 WINDOW #2,6,15,24,24:PEN #2,6
450 v$="&&&&&&&&"
460 y=200:FOR n=1 TO 5
470 PEN 1:FOR a=1 TO n*2:y=y-2:PLOT 0,y,1:DRAWR 650,0:NEXT a
480 FOR a=1 TO n*3:y=y-2:PLOT 0,y,2:DRAWR 650,0:NEXT a
490 FOR a=1 TO n*4:y=y-2:PLOT 0,y,3:DRAWR 650,0:NEXT a
500 NEXT n
510 FOR a=150 TO 250:PLOT a,0,0:DRAWR 0,a-150:DRAWR -50,0:NEXT a
520 FOR a=250 TO 370:PLOT a,0:DRAWR 0,100:NEXT a
530 FOR a=370 TO 470:PLOT a,0:DRAWR 0,ABS(470-a):DRAWR 50,0:NEXT a
540 LOCATE 8,20:PEN 7:PRINT"&&&&&&"
550 p=0:GOSUB 880:GOSUB 860
560 y=300:x=150:PRINT CHR$(23)+CHR$(1):TAG
570 IF v=1 THEN INK 1,9:INK 2,18:INK 3,19
580 IF v=2 THEN INK 1,19:INK 2,9:INK 3,18
590 IF v=3 THEN INK 1,18:INK 2,19:INK 3,9
600 SOUND 4,500,10,10,0,0,31
610 x=x+INT(16*RND-16*RND):IF INKEY(0)=0 THEN x=x-8
620 IF INKEY(2)=0 THEN x=x+8
630 y=y+INT(16*RND-16*RND):IF INKEY(8)=0 THEN y=y+8
640 IF INKEY(1)=0 THEN y=y-8
650 IF x<124 THEN x=124
660 MOVE y,x,4:PRINT"[]";:IF RND>0.99 THEN GOSUB 890
670 v=v+1:IF v>3 THEN v=1
680 IF x<240 THEN IF x>210 THEN IF y<310 THEN IF y>270 THEN SOUND 1,20,5,15
690 IF INKEY(47)=0 THEN GOSUB 720
700 MOVE y,x:PRINT"[]";
710 GOTO 570
720 MOVE 200,100:DRAW 316,220:MOVE 422,100:DRAW 320,220
730 SOUND 2,50,20,15,0,2
740 IF x>240 THEN GOTO 810
750 IF x<210 THEN GOTO 810
760 IF y>310 THEN 810
770 IF y<270 THEN 810
780 SOUND 3,100,30,15,0,2,31:p=p+15:GOSUB 880
790 MOVE y,x:PRINT"[]";:x=200+INT(RND*200):y=INT(RND*600):MOVE y,x:PRINT"[]";
800 GOTO 830
810 p=p-2:IF p<0 THEN p=0
820 GOSUB 880
830 REM
840 MOVE 200,100:DRAW 316,220:MOVE 422,100:DRAW 320,220
850 RETURN
860 PRINT#2,v$:IF LEN(v$)=0 THEN GOTO 1030
870 RETURN
880 PRINT#1,p:RETURN
890 MOVE y,x-8:DRAW 312,114:MOVE y+64,x-8:DRAW 312,114
900 SOUND 1,100,10,15,0,1
910 v$=MID$(v$,2,11):GOSUB 860
920 MOVE y,x-8:DRAW 312,114:MOVE y+64,x-8:DRAW 312,114
930 RETURN
940 SYMBOL AFTER 32
950 SYMBOL 160,1,3,6,15,31,57,112,63
960 SYMBOL 161,128,192,96,240,248,156,14,252
970 SYMBOL 64,66,153,165,219,255,189,153,66
980 SYMBOL 91,0,7,9,61,119,192,128,0
990 SYMBOL 93,0,224,144,188,238,3,1,0
1000 SYMBOL 92,20,65,8,34,144,4,65,20
1010 SYMBOL 38,254,254,254,254,254,254,254,254
1020 RETURN
1030 REM *** GAME OVER ***
```

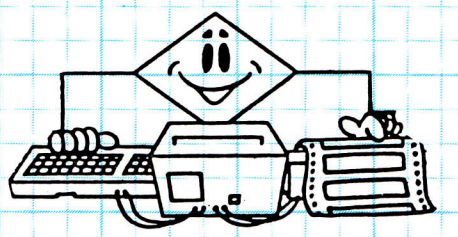
```
1040 FOR A=1 TO 20:FOR B=100 TO 200 STEP A:SOUND 1,B,1,15,0,0,31:NEXT B:NEXT A
1050 INK 0,0:INK 1,26:INK 2,15,0:PAPER 0:BORDER 0:PEN 1:MODE 0
1060 PEN 2:LOCATE 6,7:PRINT"GAME OVER"
1070 PEN 1:LOCATE 4,12:PRINT"PUNTOS:";USING "######";P
1080 PEN 3:INK 3,15:LOCATE 5,17:PRINT "OTRA? (S/N)"
1090 FOR A=1 TO 50:A$=INKEY$:NEXT A
1100 PEN 1
1110 IF INKEY(60)=0 THEN RUN 250
1120 IF INKEY(46)=0 THEN CALL 0
1130 GOTO 1110
```

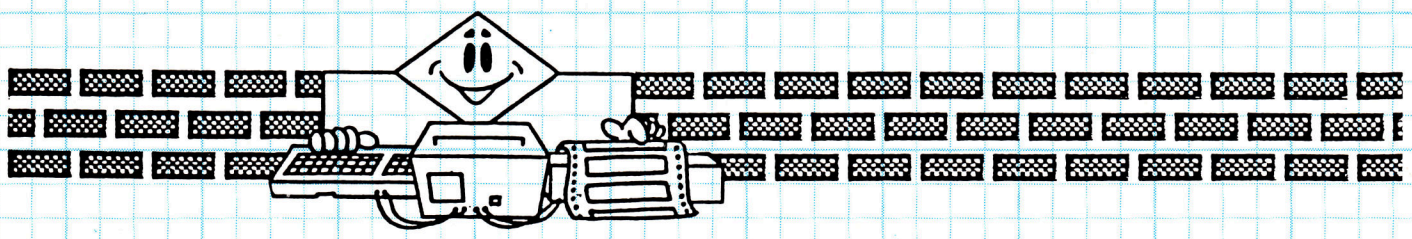


SUICIDA

```
10 REM ******* SUICIDA ********
20 REM * ANGEL GARCIA DELGADO *
30 REM ****** G.T.S. **********
40 REM
50 MODE 0
60 INK 0,0:INK 1,26:INK 2,7:INK 3,18
70 PAPER 0:BORDER 0
80 ORIGIN 318,210
90 FOR a=0 TO 2*PI STEP PI/70
100 PLOT 0,0,2
110 DRAW 300*COS(a),150*SIN(a)
120 DRAWR 0,30*SIN(a),3
130 NEXT a
140 PRINT CHR$(22)+CHR$(1);
150 LOCATE 8,12
160 PRINT "SUICIDA"
170 PRINT CHR$(22)+CHR$(0);
180 INK 2,7,0:INK 3,0,18
190 FOR a=1 TO 300:SOUND 1,a,1,15:NEXT a
200 INK 2,18,7:INK 3,7,18
210 FOR a=300 TO 1 STEP -2:SOUND 1,a,1:SOUND 2,a*2,1:NEXT a
220 INK 2,7:INK 3,18
230 FOR a=1 TO 500:NEXT a
240 FOR a=0 TO 50:PRINT CHR$(7):FOR b=1 TO 50:NEXT b:NEXT a
250 MODE 1
260 GOTO 310
270 PRINT TAB(20-LEN(a$)/2):FOR a=1 TO LEN(a$)
280 b$=MID$(a$,a,1):PRINT b$;:IF b$<>" " THEN PRINT CHR$(7);
290 NEXT a
300 PRINT:PRINT:FOR a=1 TO 200:NEXT a:RETURN
310 REM *** INICIO DEL PROGRAMA ***
320 A$="<<< SUICIDA >>>":GOSUB 270
330 PRINT:A$="EN ESTA OCASION ERES UN LOCO PELIGROSO":GOSUB 270
340 A$="Y TE HAS PROPUESTO ESTRELLARTE CONTRA":GOSUB 270
350 A$="TODOS LOS COCHES QUE SALGAN A TU PASO":GOSUB 270
360 PRINT:A$="Q. MUEVE ARRIBA":GOSUB 270
```

```
370 A$="A. MUEVE ABAJO":GOSUB 270
380 PRINT:A$="PULSA -S- PARA EMPEZAR"
390 GOSUB 270
400 IF INKEY(60)<>0 THEN 400
410 GOSUB 870
420 INK 0,0:INK 1,26:INK 2,17:INK 3,12
430 PAPER 0:BORDER 0:PEN 1
440 MODE 1
450 b$=CHR$(160)+CHR$(161):m$=CHR$(162)+CHR$(163)
460 E$=CHR$(164)+CHR$(165)
470 H=13
480 P=0:F=0
490 GOSUB 770
500 X=13:Y=37:I=1
510 ORIGIN 0,200:PLOT 0,60,1:DRAWR 650,0:PLOT 0,-60:DRAWR 650,0
520 PEN 2:LOCATE 10,H:PRINT"  "
530 IF INKEY(67)=0 THEN H=H-1:IF H<10 THEN H=10
540 IF INKEY(69)=0 THEN H=H+1:IF H>16 THEN H=16
550 LOCATE 10,H:PRINT B$
560 SOUND 1,1000,1
570 PEN 3
580 LOCATE Y,X:PRINT"  "
590 X=X+I
600 Y=Y-1
610 IF X>15 THEN I=-1
620 IF X<11 THEN I=1
630 IF Y<1 THEN Y=37:F=F+1:GOSUB 770
640 LOCATE Y,X:PRINT M$
650 SOUND 1,800,1
660 IF X=H THEN IF Y=10 OR Y=11 OR Y=12 THEN GOTO 680
670 GOTO 520
680 LOCATE 11,H:PRINT E$:GOSUB 750
690 LOCATE 10,H:PRINT E$:GOSUB 750
700 LOCATE 11,H:PRINT E$:GOSUB 750
710 P=P+15:GOSUB 770
720 GOSUB 750:GOSUB 750
730 LOCATE 10,H:PRINT "    ":GOSUB 750
740 Y=37:GOTO 520
750 FOR A=1000 TO 1100 STEP 10:SOUND 1,A,1,15,0,0,31:NEXT A:RETURN
760 END
770 PEN 1:LOCATE 4,3:PRINT"PUNTOS: ";P;TAB(25);"FALLOS: ";F
780 IF F>9 THEN GOTO 800
790 RETURN
800 INK 2,15,0
810 FOR A=1 TO 20:FOR B=100 TO 200 STEP A:SOUND 1,B,1,15,0,0,31:NEXT B:NEXT A
820 MODE 0
830 PEN 2:LOCATE 6,7:PRINT"GAME OVER"
840 PEN 1:LOCATE 4,14:PRINT"PUNTOS:";USING "######";P
850 FOR A=1 TO 10000:NEXT A
860 GOTO 250
870 SYMBOL AFTER 160
880 SYMBOL 160,31,57,113,225,255,199,187,56
890 SYMBOL 161,128,64,32,240,254,199,187,56
900 SYMBOL 162,1,2,4,127,255,199,187,56
910 SYMBOL 163,128,128,128,255,255,227,221,28
920 SYMBOL 164,99,136,18,64,43,136,34,153
930 SYMBOL 165,198,17,72,2,212,17,68,153
940 RETURN
```

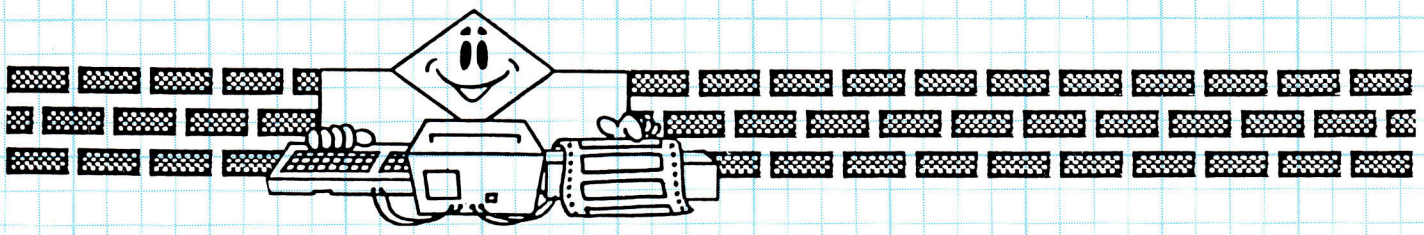




NUCLEO ENERGETICO

```
10 REM **** NUCLEO ENERGETICO ***
20 REM ** ANGEL GARCIA DELGADO **
30 REM
40 REM
50 MODE 0
60 INK 0,0:INK 1,26:INK 2,7:INK 3,18
70 PAPER 0:BORDER 0
80 ORIGIN 318,210
90 FOR a=0 TO 2*PI STEP PI/70
100 PLOT 0,0,2
110 DRAW 300*COS(a),150*SIN(a)
120 DRAWR 0,30*SIN(a),3
130 NEXT a
140 PRINT CHR$(22)+CHR$(1);
150 LOCATE 8,12
160 PRINT "NUCLEO"
170 PRINT CHR$(22)+CHR$(0);
180 INK 2,7,0:INK 3,0,18
190 FOR a=1 TO 300:SOUND 1,a,1,15:NEXT a
200 INK 2,18,7:INK 3,7,18
210 FOR a=300 TO 1 STEP -2:SOUND 1,a,1:SOUND 2,a*2,1:NEXT a
220 INK 2,7:INK 3,18
230 FOR a=1 TO 500:NEXT a
240 FOR a=0 TO 50:PRINT CHR$(7):FOR b=1 TO 50:NEXT b:NEXT a
250 MODE 1
260 GOTO 310
270 PRINT TAB(20-LEN(a$)/2):FOR a=1 TO LEN(a$)
280 b$=MID$(a$,a,1):PRINT b$;:IF b$<>" " THEN PRINT CHR$(7);
290 NEXT a
300 PRINT:PRINT:FOR a=1 TO 200:NEXT a:RETURN
310 REM *** INICIO DEL PROGRAMA ***
320 A$="<< NUCLEO ENERGETICO >>":GOSUB 270
330 PRINT:A$="DEFIENDE TU NUCLEO ENERGETICO":GOSUB 270
340 A$="DE LOS ATAQUES DE LOS ALIENIGENAS":GOSUB 270
350 A$="DEL PLANETA DRAKOV":GOSUB 270
360 PRINT:A$="LOS CONTROLES SON:":GOSUB 270
370 A$="Q. ARRIBA    A. ABAJO":GOSUB 270
380 A$="O. IZQUIERDA  P. DERECHA":GOSUB 270
390 PRINT:A$="PULSA -S- PARA EMPEZAR":GOSUB 270
400 IF INKEY(60)<>0 THEN 400
410 GOSUB 870
420 CO=24
430 DIM M(8,2)
440 MODE 1
450 ENT 1,10,1,1,10,-2,1
460 ENT 2,20,1,3
470 INK 1,26:INK 3,18:INK 2,CO,CO+3
480 B$="":FOR A=1 TO 6:B$=B$+CHR$(160):NEXT A
490 C$=B$+CHR$(160)+CHR$(160)
500 D$=C$+CHR$(160)+CHR$(160)
510 LOCATE 5,8
```

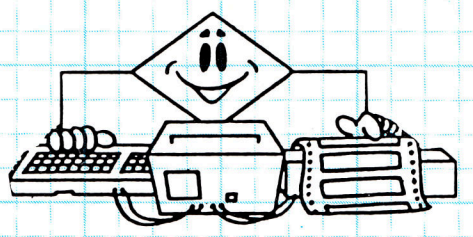
```
520 A$=B$:GOSUB 970:A$=C$:GOSUB 970:A$=D$:FOR A=1 TO 5:GOSUB 970:NEXT A
530 A$=C$:GOSUB 970:A$=B$:GOSUB 970
540 X=10:Y=5
550 XB=X:YB=1
560 FOR A=1 TO 8
570 GOSUB 980
580 NEXT A
590 A=1
600 PEN 3:GOSUB 740
610 A=A+1:IF A>8 THEN A=1
620 IF INKEY(67)=0 THEN X=X-1:IF X<1 THEN X=1
630 IF INKEY(69)=0 THEN X=X+1:IF X>25 THEN X=25
640 IF INKEY(34)=0 THEN Y=Y-1:IF Y<1 THEN Y=1
650 IF INKEY(27)=0 THEN Y=Y+1:IF Y>39 THEN Y=39
660 LOCATE Y,X:CALL 30000:C=PEEK(29999)
670 IF C=0 THEN X=XB:Y=YB
680 IF C=161 THEN GOSUB 840
690 PEN 1
700 LOCATE YB,XB:PRINT" ":LOCATE Y,X:PRINT CHR$(248+RND*3)
710 XB=X:YB=Y
720 SOUND 4,100,20,5+CO/3,0,1
730 GOTO 600
740 XM=M(A,1):YM=M(A,2):LOCATE YM,XM:PRINT" "
750 IF XM>12 THEN IF RND>0.5 THEN XM=XM-1
760 IF XM<12 THEN IF RND>0.5 THEN XM=XM+1
770 IF YM<20 THEN IF RND>0.5 THEN YM=YM+1
780 IF YM>20 THEN IF RND>0.5 THEN YM=YM-1
790 LOCATE YM,XM:CALL 30000:C=PEEK(29999)
800 IF C=0 THEN GOSUB 1040
810 PEN 3:LOCATE YM,XM:PRINT CHR$(161)
820 M(A,1)=XM:M(A,2)=YM
830 RETURN
840 FOR A=1 TO 8
850 IF M(A,1)=X THEN IF M(A,2)=Y THEN SOUND 1,200,25,15,0,2:GOSUB 980:P=P+5:RETU
RN
860 NEXT A:A=1:RETURN
870 REM ** CODE SCREEN$ **
880 DATA 205,96,187,50,47,117,201
890 RESTORE 880
900 FOR a=30000 TO 30006:READ b:POKE a,b:NEXT a
910 SYMBOL AFTER 160
920 SYMBOL 160,126,219,165,219,219,165,219,126
930 SYMBOL 161,255,153,189,255,129,255,66,231
940 SYMBOL 162,0,36,90,36,36,90,36,0
950 RETURN
960 REM ******************
970 PRINT TAB(20-LEN(A$)/2);:PAPER 3:PEN 2:PRINT A$;PAPER 0:PEN 1:RETURN
980 XX=1+INT(RND*24):YY=1+INT(RND*39)
990 LOCATE YY,XX:CALL 30000
1000 IF PEEK(29999)<>32 THEN GOTO 980
1010 M(A,1)=XX:M(A,2)=YY
1020 LOCATE YY,XX:PEN 3:PRINT CHR$(161)
1030 RETURN
1040 REM *** MUERTO ***
1050 XM=M(A,1):YM=M(A,2)
1060 FOR Z=1 TO 200 STEP 10:SOUND 2,Z,2,15,0,1:NEXT Z
1070 CO=CO-2:INK 2,CO,CO+3:IF CO<1 THEN GOTO 1090
1080 RETURN
1090 REM *** GAME OVER ***
1100 FOR A=1 TO 20:FOR B=100 TO 200 STEP A:SOUND 1,B,1,15,0,0,31:NEXT B:NEXT A
1110 INK 0,0:INK 1,26:INK 2,15,0:PAPER 0:BORDER 0:PEN 1:MODE 0
1120 PEN 2:LOCATE 6,7:PRINT"GAME OVER"
1130 PEN 1:LOCATE 4,12:PRINT"PUNTOS:";USING "######";P
1140 PEN 3:INK 3,15:LOCATE 5,17:PRINT "OTRA? (S/N)"
1150 FOR A=1 TO 50:A$=INKEY$:NEXT A
1160 PEN 1
1170 IF INKEY(60)=0 THEN RUN 250
1180 IF INKEY(46)=0 THEN CALL 0
1190 GOTO 1170
```

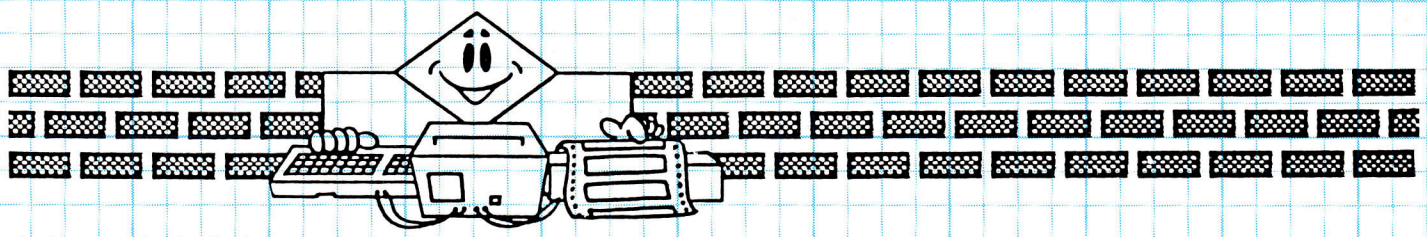


NAUFRAGO

```
10 REM *** NAUFRAGO ***
20 REM * ANGEL GARCIA *
30 REM **** G.T.S. ****
40 REM
50 MODE 0
60 INK 0,0:INK 1,26:INK 2,7:INK 3,18
70 PAPER 0:BORDER 0
80 ORIGIN 318,210
90 FOR a=0 TO 2*PI STEP PI/70
100 PLOT 0,0,2
110 DRAW 300*COS(a),150*SIN(a)
120 DRAWR 0,30*SIN(a),3
130 NEXT a
140 PRINT CHR$(22)+CHR$(1);
150 LOCATE 7,12
160 PRINT "NAUFRAGO"
170 PRINT CHR$(22)+CHR$(0);
180 INK 2,7,0:INK 3,0,18
190 FOR a=1 TO 300:SOUND 1,a,1,15:NEXT a
200 INK 2,18,7:INK 3,7,18
210 FOR a=300 TO 1 STEP -2:SOUND 1,a,1:SOUND 2,a*2,1:NEXT a
220 INK 2,7:INK 3,18
230 FOR a=1 TO 500:NEXT a
240 FOR a=0 TO 50:PRINT CHR$(7):FOR b=1 TO 50:NEXT b:NEXT a
250 MODE 1
260 GOTO 310
270 PRINT TAB(20-LEN(a$)/2):FOR a=1 TO LEN(a$)
280 b$=MID$(a$,a,1):PRINT b$;:IF b$<>" " THEN PRINT CHR$(7);
290 NEXT a
300 PRINT:PRINT:FOR a=1 TO 200:NEXT a:RETURN
310 REM *** INICIO DEL PROGRAMA ***
320 A$="<< NAUFRAGO >>":GOSUB 270
330 PRINT:A$="RECOGE LAS PROVISIONES QUE TE":GOSUB 270
340 A$="ENVIA EL AVION PARA QUE SOBREVIVAS":GOSUB 270
350 A$="AL NAUFRAGIO, HASTA QUE VENGA":GOSUB 270
360 A$="UN BARCO A RESCATARTE":GOSUB 270
370 PRINT:A$="CONTROLES DE TU BARCA:":GOSUB 270
380 A$="F1. MUEVE A LA IZQUIERDA":GOSUB 270
390 A$="F3. MUEVE A LA DERECHA":GOSUB 270
400 PRINT:A$="PULSA -S- PARA EMPEZAR":GOSUB 270
410 IF INKEY(60)<>0 THEN 410
420 ENT 1,10,1,1,10,-1,1
430 GOSUB 720
440 INK 0,23:PAPER 0:BORDER 23:INK 1,0:PEN 1:MODE 0
450 INK 2,4:INK 3,6:INK 4,14:INK 5,26
460 WINDOW #1,1,20,24,25:PEN #1,5:PAPER #1,4:WINDOW #2,1,20,19,25:PAPER #2,4:CLS
 #2
470 AC=0:FA=0:GOSUB 660
480 pa=1:xp=5:yp=5
490 y=8
500 xa=1+INT(RND*10):ya=0
```

```
510 IF INKEY(13)=0 THEN y=y-1:IF y<2 THEN y=2
520 IF INKEY(5)=0 THEN y=y+1:IF y>18 THEN y=18
530 EVERY 50 GOSUB 830
540 LOCATE y-1,18:PEN 3:PRINT ba$
550 ya=ya+1:IF ya>17 THEN LOCATE ya,xa:PRINT "  ":xa=1+INT(RND*10):ya=1
560 LOCATE ya,xa:PEN 1:PRINT av$
570 SOUND 1,800,10,10,0,1,31
580 ON pa GOSUB 600,620
590 GOTO 510
600 IF RND>0.95 THEN pa=2:xp=xa+1:yp=ya+2:SOUND 2,100,10,15
610 RETURN
620 LOCATE yp,xp:PRINT" ":xp=xp+1:LOCATE yp,xp:PEN 2:PRINT pc$
630 IF xp>16 THEN LOCATE yp,xp:PRINT" ":LOCATE yp,xp+1:PRINT" ":pa=1:fa=fa+1:SOU
ND 2,400,20,15:GOSUB 660
640 IF xp=15 OR xp=16 THEN IF yp=y OR yp=y+1 THEN SOUND 2,200,20,15:ac=ac+1:GOSU
B 660:LOCATE yp,xp:PRINT" ":LOCATE yp,xp+1:PRINT" ":
pa=1
650 RETURN
660 LOCATE #1,4,1:PRINT #1,"AC:";USING "##";AC
670 LOCATE #1,13,1:PRINT #1,"FA:";USING "##";FA
680 IF FA>19 THEN GOTO 700
690 RETURN
700 P=AC*15:FOR A=1 TO 20:A$=INKEY$:NEXT A
710 GOTO 840
720 SYMBOL AFTER 160
730 SYMBOL 160,224,240,240,249,135,126,63,0
740 SYMBOL 161,0,0,129,64,253,255,248,1
750 SYMBOL 162,60,78,191,255,129,66,36,24
760 SYMBOL 163,110,255,126,255,255,110,0,0
770 SYMBOL 164,3,11,5,3,255,127,31,15
780 SYMBOL 165,192,208,160,192,255,254,248,240
790 av$=" "+CHR$(160)+CHR$(161)
800 pc$=CHR$(162)+CHR$(8)+CHR$(10)+CHR$(163)
810 ba$=" "+CHR$(164)+CHR$(165)+" "
820 RETURN
830 CALL &BD19:RETURN
840 REM *** GAME OVER ***
850 FOR A=1 TO 20:FOR B=100 TO 200 STEP A:SOUND 1,B,1,15,0,0,31:NEXT B:NEXT A
860 INK 0,0:INK 1,26:INK 2,15,0:PAPER 0:BORDER 0:PEN 1:MODE 0
870 PEN 2:LOCATE 6,7:PRINT"GAME OVER"
880 PEN 1:LOCATE 4,12:PRINT"PUNTOS:";USING "######";P
890 PEN 3:INK 3,15:LOCATE 5,17:PRINT "OTRA? (S/N)"
900 FOR A=1 TO 50:A$=INKEY$:NEXT A
910 PEN 1
920 IF INKEY(60)=0 THEN RUN 250
930 IF INKEY(46)=0 THEN CALL 0
940 GOTO 920
```

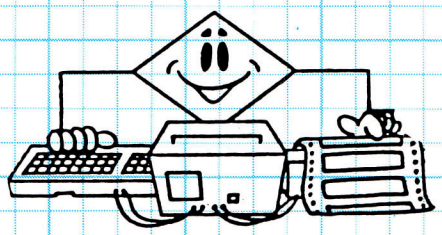


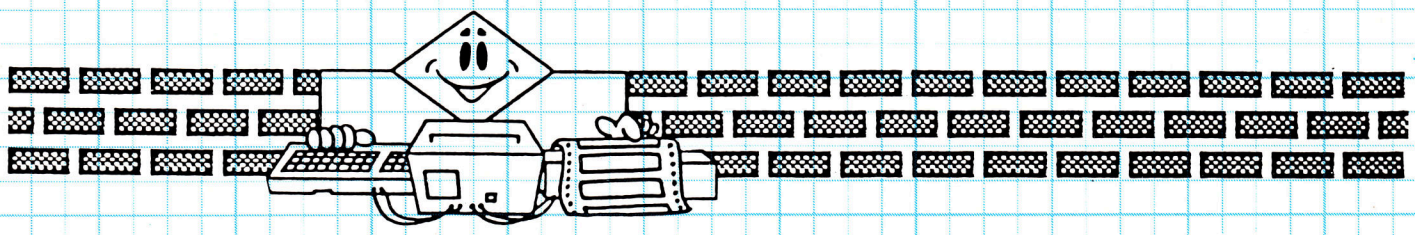


MUSCULOS

```
10 REM **    MUSCULOS    **
20 REM *                 *
30 REM ** ANGEL GARCIA **
40 REM *                 *
50 REM **    G. T. S.    **
60 REM
70 INK 0,0:INK 1,26:INK 2,8
80 BORDER 0:PAPER 0:PEN 1
90 MODE 0
100 ORIGIN 310,200
110 FOR A=0 TO 2*PI STEP PI/50
120 PLOT 0,0,2:DRAW SIN(A)*(150+RND*180),COS(A)*(80+RND*160)
130 NEXT A
140 PRINT CHR$(22);CHR$(1)
150 SPEED INK 30,30
160 LOCATE 7,13:PEN 1:PRINT "MUSCULOS"
170 INK 2,8,6
180 RESTORE 1020
190 READ A,B:IF A=-1 THEN GOTO 180
200 F=440*(2^(B/12)):T=ROUND(12500/F)
210 SOUND 1,T*5,A*10,15
220 SOUND 2,T*3,A*10,15
230 IF INKEY$<>"" THEN 250
240 GOTO 190
250 REM *** MENU ***
260 MODE 1
270 INK 3,11
280 INK 2,8
290 ORIGIN 0,0:DRAWR 600,0,1:DRAWR 0,399:DRAWR -600,0:DRAWR 0,-399
300 WINDOW 8,32,6,25
310 PRINT " ":PRINT" "
320 PEN 3:PRINT "**** ELIGE TU OPCION ****"
330 PRINT " "
340 PEN 1:PRINT "     1. CUESTIONARIO"
350 PRINT " "
360 PRINT "     2. LISTAR DATOS"
370 PRINT " "
380 PRINT "     3. TERMINAR"
390 PRINT " "
400 PRINT" "
410 PEN 3:PRINT"*************************"
420 IF INKEY(64)=0 THEN GOTO 460
430 IF INKEY(65)=0 THEN GOTO 880
440 IF INKEY(57)=0 THEN MODE 1:CALL 0
450 GOTO 420
460 REM **** CUESTIONARIO ****
470 MODE 1:INK 1,26:INK 2,20:INK 3,8
480 FOR P=1 TO 20
490 MODE 1:PEN 1:PRINT"****** MUSCULOS DEL CUERPO HUMANO ******"
500 N=INT (RND*3)
510 IF N=0 THEN RESTORE 960
```

```
520 IF N=1 THEN RESTORE 980
530 IF N=2 THEN RESTORE 1000
540 READ R$,NN:NN=INT(RND*NN):FOR Z=0 TO NN:READ I$:NEXT Z
550 PEN 3:PRINT" "
560 PRINT"PREGUNTA:";P;TAB(17);"MUSCULO: ";I$
570 PRINT " ":PEN 2
580 PRINT " "
590 PRINT "A QUE PARTE PARTE DEL CUERPO CORRESPONDE";:PRINT " ":PRINT"
 EL MUSCULO CITADO:"
600 PRINT" ":PRINT" "
610 PEN 3:PRINT "              (PULSA 1,2 o 3)"
620 PEN 1:PRINT " "
630 PRINT" ":PRINT "            1. CABEZA (Y CUELLO)"
640 PRINT" ":PRINT "            2. TRONCO (TORAX-ABDOMEN)"
650 PRINT" ":PRINT "            3. EXTREMIDADES"
660 SOUND 1,100,10
670 REM
680 IF INKEY(64)=0 THEN NR=0:GOTO 720
690 IF INKEY(65)=0 THEN NR=1:GOTO 720
700 IF INKEY(57)=0 THEN NR=2:GOTO 720
710 GOTO 670
720 PEN 2:PRINT " ":PRINT" ":IF NR=N THEN PRINT "!!!CORRECTO!!! LA RESPUESTA ES
";R$:FOR B=1 TO 3:FOR A=15 TO 0 STEP -1:INK 0,A:SOUN
D 1,A,1:NEXT A,B:AC=AC+1
730 IF NR<>N THEN PRINT "INCORRECTO. LA RESPUESTA ERA ";R$:SOUND 1,600,100:FOR A
=1 TO 100:PLOT RND*600,RND*400:NEXT A
740 NEXT P
750 MODE 0:FOR A=1 TO 15:INK A,27-A:NEXT A
760 PEN 5:PRINT "**** RESULTADOS ****"
770 PRINT" ":PRINT" "
780 PEN 2:PRINT "  ACIERTOS.....";AC
790 PRINT " "
800 PEN 3:PRINT "  FALLOS.......";20-AC
810 PRINT" ":PRINT" ":PRINT" "
820 PEN 1:PRINT"  PORCENTAJE:";AC*5;"%"
830 PRINT" ":PRINT" ":PRINT" "
840 PRINT "********************"
850 FOR A=0 TO 100:A$=INKEY$:SOUND 1,A,1,15:NEXT A
860 IF INKEY$=""THEN 860
870 GOTO 250
880 MODE 2:RESTORE 960
890 FOR A=1 TO 3
900 READ A$,N
910 PRINT "- ";A$;":":PRINT" "
920 FOR B=1 TO N:READ B$:PRINT "   ";B$,:NEXT B
930 PRINT" ":PRINT" ":PRINT " "
940 NEXT A
950 GOTO 850
960 DATA CABEZA,9
970 DATA TEMPORAL,MASETERO,PTERIGOIDEO,ORBICULAR,SUPERCILIAR,BUCCINADOR,LINGUAL,
ESTERNOCLEIDOMASTOIDEO,CUTANEO
980 DATA TRONCO,8
990 DATA PECTORAL,SERRATO,INTERCOSTAL,RECTO,OBLICUO,TRANSVERSO,CUADRADO,DIAFRAGM
A
1000 DATA EXTREMIDADES,18
1010 DATA DELTOIDES,SUPRAESPINOSO,INFRAESPINOSO,REDONDO,SUBESCAPULAR,BICEPS,TRIC
EPS,BRAQUIAL,CUBITAL,RADIAL,SUPINADOR,EXTENSORES,FLE
XORES,SARTORIO,SEMITENDINOSO,TIBIAL,PERONEOS,GEMELOS
1020 DATA 8,4,4,5,4,7,4,7,4,5,4,4,4,2,4,0,4,0,4,2,4,4,8,4,2,2,8,2,8,4,4,5,4,7,4,
7,4,5,4,4,4,2,4,0,4,0,4,2,4,4,8,2,2,0,9,0
1030 DATA -1,-1
```

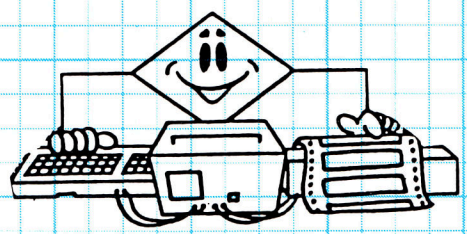


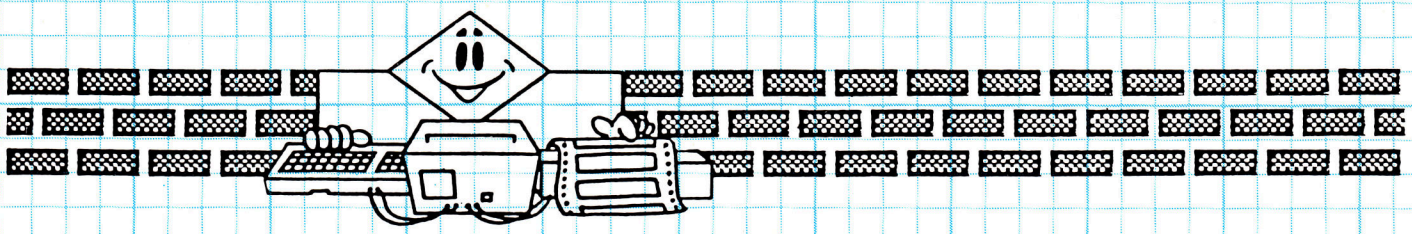


MODULO LUNAR

```
10 REM ***** MODULO LUNAR *****
20 REM * ANGEL GARCIA DELGADO *
30 REM ******* G.T.S. *********
40 REM
50 MODE 0
60 INK 0,0:INK 1,26:INK 2,7:INK 3,18
70 PAPER 0:BORDER 0
80 ORIGIN 318,210
90 FOR a=0 TO 2*PI STEP PI/70
100 PLOT 0,0,2
110 DRAW 300*COS(a),150*SIN(a)
120 DRAWR 0,30*SIN(a),3
130 NEXT a
140 PRINT CHR$(22)+CHR$(1);
150 LOCATE 8,12
160 PRINT "MODULO"
170 PRINT CHR$(22)+CHR$(0);
180 INK 2,7,0:INK 3,0,18
190 FOR a=1 TO 300:SOUND 1,a,1,15:NEXT a
200 INK 2,18,7:INK 3,7,18
210 FOR a=300 TO 1 STEP -2:SOUND 1,a,1:SOUND 2,a*2,1:NEXT a
220 INK 2,7:INK 3,18
230 FOR a=1 TO 500:NEXT a
240 FOR a=0 TO 50:PRINT CHR$(7):FOR b=1 TO 50:NEXT b:NEXT a
250 MODE 1
260 GOTO 310
270 PRINT TAB(20-LEN(a$)/2):FOR a=1 TO LEN(a$)
280 b$=MID$(a$,a,1):PRINT b$;:IF b$<>" " THEN PRINT CHR$(7);
290 NEXT a
300 PRINT:PRINT:FOR a=1 TO 200:NEXT a:RETURN
310 REM *** INICIO DEL PROGRAMA ***
320 A$="<< MODULO LUNAR >>":GOSUB 270
330 PRINT:A$="RECOGE CON TU MODULO, LAS CELULAS":GOSUB 270
340 A$="SOLARES QUE SE ESTAN RECARGANDO":GOSUB 270
350 A$="FUERA DE LA ATMOSFERA, PERO PROCURA":GOSUB 270
360 A$=" NO ESTRELLARTE CON LOS ASTEROIDES":GOSUB 270
370 PRINT:A$="CURSOR <. MUEVE IZQUIERDA":GOSUB 270
380 A$="CURSOR >. MUEVE DERECHA":GOSUB 270
390 A$="SPACE. ACTIVA RETROCOHETES":GOSUB 270
400 PRINT:A$="PULSA -S- PARA EMPEZAR":GOSUB 270
410 IF INKEY(60)<>0 THEN GOTO 410
420 GOSUB 710:INK 0,0:INK 1,26:INK 2,20:INK 3,24,6:INK 4,18:INK 5,3
430 PAPER 0:BORDER 0:PEN 1:MODE 0
440 WINDOW 1,20,3,25:WINDOW #1,1,20,1,3
450 P=0:V$="###"
460 CO=0:LLEVAR=0:XN=20:YN=10
470 XB=XN:YB=YN
480 CLS:GOSUB 880:PRINT"@ @ @ @ @  @ @ @ @ @"
490 FOR A=1 TO 10:X=4+INT(RND*16):Y=1+INT(RND*19)
500 PEN 5:LOCATE Y,X:PRINT"(":NEXT A
```

```
510 PEN 1:LOCATE 9,21:PRINT"\\\\"
520 T=INKEY(47):IF T=0 THEN XN=XN-1:SOUND 4,200,5,15,0,0,31:IF XN<1 THEN XN=1
530 IF T<>0 THEN XN=XN+1:IF XN>21 THEN GOSUB 760
540 IF INKEY(8)=0 THEN YN=YN-1:IF YN<1 THEN YN=1
550 IF INKEY(1)=0 THEN YN=YN+1:IF YN>20 THEN YN=20
560 LOCATE YN,XN:CALL 30000:C=PEEK(29999)
570 IF C<>32 THEN GOSUB 610
580 PEN 2:LOCATE YB,XB:PRINT" ":LOCATE YN,XN:PRINT"["
590 XB=XN:YB=YN
600 GOTO 520
610 IF C=64 THEN IF LLEVAR=1 THEN SOUND 1,900,5,15:XN=XB:YN=YB
620 IF C=64 THEN IF LLEVAR=0 THEN LLEVAR=1:FOR A=1 TO 100 STEP 10:SOUND 2,A,1,15
:NEXT A
630 IF C=123 THEN GOSUB 760
640 IF C=92 THEN GOSUB 660
650 RETURN
660 IF LLEVAR=1 THEN FOR A=100 TO 1 STEP -10:SOUND 2,A,1,15:NEXT A:P=P+15:GOSUB
880:CO=CO+1:LLEVAR=0:IF CO>9 THEN GOTO 690
670 IF LLEVAR=0 THEN XN=XB:YN=YB
680 RETURN
690 FOR A=1000 TO 1 STEP -8:SOUND 1,A,1,15:NEXT A
700 GOTO 460
710 REM ** CODE SCREEN$ **
720 DATA 205,96,187,50,47,117,201
730 RESTORE 720
740 FOR a=30000 TO 30006:READ b:POKE a,b:NEXT a
750 GOTO 800
760 LOCATE YB,XB:PRINT" ":LOCATE YN,XN:PEN 3:PRINT CHR$(160):PEN 1
770 FOR A=1 TO 400:SOUND 4,A,1,15,0,0,31:NEXT A
780 LOCATE YN,XN:PRINT" "
790 V$=MID$(V$,1,LEN(V$)-1):GOSUB 880:XN=20:yn=10:RETURN
800 SYMBOL AFTER 32
810 SYMBOL 91,24,44,94,191,191,191,255,126
820 SYMBOL 93,16,56,92,56,48,32,16,0
830 SYMBOL 92,255,255,255,44,44,44,94,191
840 SYMBOL 160,145,0,84,56,253,16,68,146
850 SYMBOL 64,24,60,102,219,219,102,60,24
860 SYMBOL 123,0,24,62,126,63,127,62,24
870 RETURN
880 PEN#1,4:LOCATE #1,1,1:PRINT#1," PUNTOS:";:PEN#1,1:PRINT#1,P:LOCATE #1,17,1:P
EN#1,2:PRINT #1,V$;" ";
890 IF LEN(V$)=0 THEN GOTO 910
900 RETURN
910 REM *** GAME OVER ***
920 FOR A=1 TO 20:FOR B=100 TO 200 STEP A:SOUND 1,B,1,15,0,0,31:NEXT B:NEXT A
930 INK 0,0:INK 1,26:INK 2,15,0:PAPER 0:BORDER 0:PEN 1:MODE 0
940 PEN 2:LOCATE 6,7:PRINT"GAME OVER"
950 PEN 1:LOCATE 4,12:PRINT"PUNTOS:";USING "######";P
960 PEN 3:INK 3,15:LOCATE 5,17:PRINT "OTRA? (S/N)"
970 FOR A=1 TO 50:A$=INKEY$:NEXT A
980 PEN 1
990 IF INKEY(60)=0 THEN RUN 250
1000 IF INKEY(46)=0 THEN CALL 0
1010 GOTO 990
```

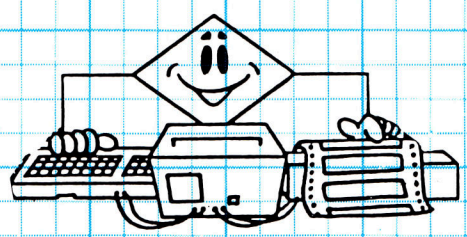


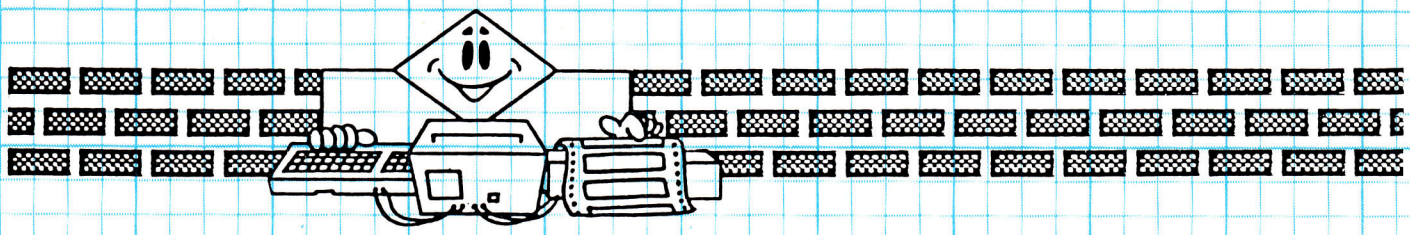


ARTILLERIA

```
10 REM ******* ARTILLERIA *******
20 REM * ANGEL GARCIA DELGADO ***
30 REM ********* G.T.S. *********
40 REM
50 MODE 0
60 INK 0,0:INK 1,26:INK 2,7:INK 3,18
70 PAPER 0:BORDER 0
80 ORIGIN 318,210
90 FOR a=0 TO 2*PI STEP PI/70
100 PLOT 0,0,2
110 DRAW 300*COS(a),150*SIN(a)
120 DRAWR 0,30*SIN(a),3
130 NEXT a
140 PRINT CHR$(22)+CHR$(1);
150 LOCATE 6,12
160 PRINT "ARTILLERIA"
170 PRINT CHR$(22)+CHR$(0);
180 INK 2,7,0:INK 3,0,18
190 FOR a=1 TO 300:SOUND 1,a,1,15:NEXT a
200 INK 2,18,7:INK 3,7,18
210 FOR a=300 TO 1 STEP -2:SOUND 1,a,1:SOUND 2,a*2,1:NEXT a
220 INK 2,7:INK 3,18
230 FOR a=1 TO 500:NEXT a
240 FOR a=0 TO 50:PRINT CHR$(7):FOR b=1 TO 50:NEXT b:NEXT a
250 MODE 1
260 GOTO 310
270 PRINT TAB(20-LEN(a$)/2):FOR a=1 TO LEN(a$)
280 b$=MID$(a$,a,1):PRINT b$;:IF b$<>" " THEN PRINT CHR$(7);
290 NEXT a
300 PRINT:PRINT:FOR a=1 TO 200:NEXT a:RETURN
310 REM *** INICIO DEL PROGRAMA ***
320 A$="<< ARTILLERIA >>":GOSUB 270
330 PRINT:A$="DESTRUYE UN TANQUE QUE SE ENCUENTRA":GOSUB 270
340 A$="AL OTRO LADO DE LA CADENA DE MONTES.":GOSUB 270
350 PRINT:A$="TU PUEDES REGULAR EL ANGULO DE TIRO":GOSUB 270
360 A$="Y EL IMPULSO (VELOCIDAD INICIAL)":GOSUB 270
370 A$="DE TU UNIDAD ARTILLERA":GOSUB 270
380 PRINT:A$="POR CADA TANQUE DESTRUIDO SE TE":GOSUB 270
390 A$="AUMENTARA EN 100 UNIDADES EL INPULSO":GOSUB 270
400 PRINT:A$="PULSA -S- PARA EMPEZAR":GOSUB 270
410 IF INKEY(60)<>0 THEN 410
420 SYMBOL AFTER 32
430 SYMBOL 91,1,7,127,7,127,255,255,127
440 SYMBOL 93,128,224,224,224,254,255,255,254
450 SYMBOL 92,218,173,189,81,127,103,188,24
460 SYMBOL 64,129,66,36,152,104,102,233,150
470 IM=300:AC=0
480 INK 0,23:PAPER 0:BORDER 23:INK 1,0:INK 2,9:INK 3,2:INK 4,3:INK 5,26:PEN 1:MO
DE 0
490 DEF FN R(X)=INT(RND*X):ORIGIN 0,0
500 LOCATE 1,22:PEN 4:PRINT"@"
```

```
510 FOR A=0 TO 47:PLOT 0,A,2
520 DRAWR 650,0
530 NEXT A
540 WINDOW #2,1,20,24,25:PAPER #2,2:PEN #2,5
550 WINDOW #1,1,20,1,2:PEN #1,5
560 GOSUB 980
570 FOR Z=250 TO 350 STEP 4
580 PLOT Z,47:DRAWR 0,FN R(100)
590 NEXT Z
600 X=19-FN R(8)
610 LOCATE X,22:PEN 3:PRINT"[]"
620 IF IM<1 THEN GOTO 950
630 CLS #2:INPUT #2,"ANGULO:  ",ANG
640 INPUT #2,"INPULSO: ",I:IF I<0 OR I>IM THEN SOUND 1,100:GOTO 640
650 IM=IM-I
660 X=1:Y=200
670 ENT 1,10,1,1,20,-1,1
680 DEG:SOUND 1,500,30,15,0,1,31
690 VX=I*COS(ANG):VY=I*SIN(ANG)
700 FOR Z=8 TO 650 STEP 4
710 PLOT X,Y,0
720 T=Z/VX:X=Z+16
730 Y=55+VY*T-4.9*T*T
740 TI=TEST (X,Y)
750 PLOT X,Y,1
760 SOUND 2,Y*2,1,13
770 FOR V=1 TO 30:NEXT V
780 IF TI=2 THEN GOTO 820:REM -- CHOQUE CON PAISAJE --
790 IF TI=3 THEN GOTO 920:REM --    ''    CON TANQUE --
800 IF Y<8 THEN GOTO 820
810 NEXT Z
820 ORIGIN X,Y
830 PRINT CHR$(23);CHR$(1):TAG:FOR N=1 TO 50
840 MOVE RND*N,RND*N:PRINT"*";
850 MOVE -RND*N,RND*N:PRINT"*";
860 REM MOVE -RND*N,-RND*N:PRINT"*";
870 REM MOVE RND*N,-RND*N:PRINT"*";
880 SOUND 3,A*5,3,15,0,1,31
890 NEXT N:TAGOFF:PRINT CHR$(23);CHR$(0);
900 FOR N=1 TO 2000:NEXT N
910 GOTO 480
920 SOUND 3,50,30,15,0,1:AC=AC+1:GOSUB 980
930 IM=IM+100
940 GOTO 820
950 FOR A=1 TO 20:SOUND 3,50,30,15,0,1:NEXT A
960 GOTO 990
970 LOCATE 1,1:END
980 CLS #1:PRINT#1,"IMPULSO:  ";USING "###";IM:PRINT#1,"IMPACTOS: ";USING "###";
AC:RETURN
990 REM
1000 REM *** GAME OVER ***
1010 FOR A=1 TO 20:FOR B=100 TO 200 STEP A:SOUND 1,B,1,15,0,0,31:NEXT B:NEXT A
1020 INK 0,0:INK 1,26:INK 2,15,0:PAPER 0:BORDER 0:PEN 1:MODE 0
1030 PEN 2:LOCATE 6,7:PRINT"GAME OVER"
1040 PEN 1:LOCATE 4,12:PRINT"PUNTOS:";USING "######";P
1050 PEN 3:INK 3,15:LOCATE 5,17:PRINT "OTRA? (S/N)"
1060 FOR A=1 TO 50:A$=INKEY$:NEXT A
1070 PEN 1
1080 IF INKEY(60)=0 THEN RUN 250
1090 IF INKEY(46)=0 THEN CALL 0
1100 GOTO 1080
```

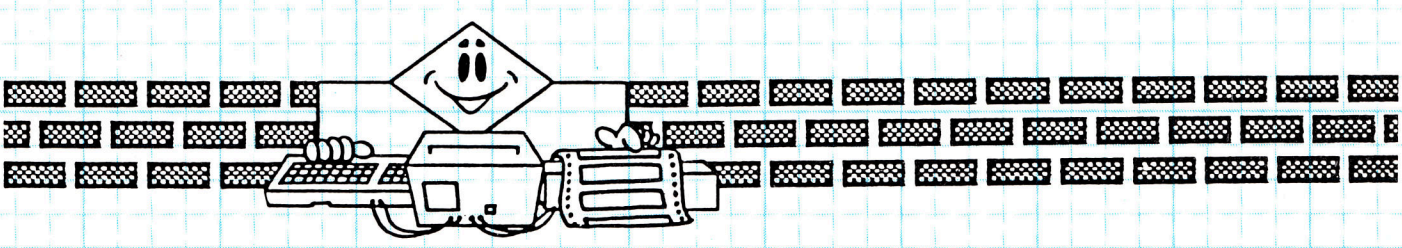




SLIPPERY

```
10 REM ******* SLIPPERY *******
20 REM * ANGEL GARCIA DELGADO *
30 REM ******** G.T.S. ********
40 REM
50 MODE 0
60 INK 0,0:INK 1,26:INK 2,7:INK 3,18
70 PAPER 0:BORDER 0
80 ORIGIN 318,210
90 FOR a=0 TO 2*PI STEP PI/70
100 PLOT 0,0,2
110 DRAW 300*COS(a),150*SIN(a)
120 DRAWR 0,30*SIN(a),3
130 NEXT a
140 PRINT CHR$(22)+CHR$(1);
150 LOCATE 7,12
160 PRINT "SLIPPERY"
170 PRINT CHR$(22)+CHR$(0);
180 INK 2,7,0:INK 3,0,18
190 FOR a=1 TO 300:SOUND 1,a,1,15:NEXT a
200 INK 2,18,7:INK 3,7,18
210 FOR a=300 TO 1 STEP -2:SOUND 1,a,1:SOUND 2,a*2,1:NEXT a
220 INK 2,7:INK 3,18
230 FOR a=1 TO 500:NEXT a
240 FOR a=0 TO 50:PRINT CHR$(7):FOR b=1 TO 50:NEXT b:NEXT a
250 MODE 1
260 GOTO 310
270 PRINT TAB(20-LEN(a$)/2):FOR a=1 TO LEN(a$)
280 b$=MID$(a$,a,1):PRINT b$;:IF b$<>" " THEN PRINT CHR$(7);
290 NEXT a
300 PRINT:PRINT:FOR a=1 TO 200:NEXT a:RETURN
310 REM *** INICIO DEL PROGRAMA ***
320 A$="<< SLIPPERY >>":GOSUB 270
330 PRINT:A$="AYUDA AL GUSANO SLIPPERY PARA QUE COJA":GOSUB 270
340 A$="LOS CARAMELOS QUE HAY EN LA HABITACION":GOSUB 270
350 A$=" PERO TENIENDO MUCHO CUIDADO, PARA NO":GOSUB 270
360 A$="CHOCAR CONSIGO MISMO O CONTRA EL MURO":GOSUB 270
370 PRINT:A$="PARA DIRIGIRLO EMPLEA:":GOSUB 270
380 A$="Q. ARRIBA":GOSUB 270
390 A$="A. ABAJO":GOSUB 270
400 A$="O. IZQUIERDA":GOSUB 270
410 A$="P. DERECHA":GOSUB 270
420 PRINT:A$=" PULSA -S- PARA EMPEZAR":GOSUB 270
430 IF INKEY(60)<>0 THEN 430
440 GOSUB 750:P=0:V$="@@@"
450 INK 0,0:PAPER 0:BORDER 0:INK 1,6:INK 2,18,15:INK 3,12:PEN 1:MODE 1
460 WINDOW 1,40,3,25
470 X=10:Y=10:D=4
480 A$=STRING$(40,"[")
490 PEN 1:PRINT A$;:FOR A=1 TO 20
500 PEN 1:PRINT"[";:PEN 2:PRINT STRING$(38,"\");:PEN 1:PRINT"[";
```

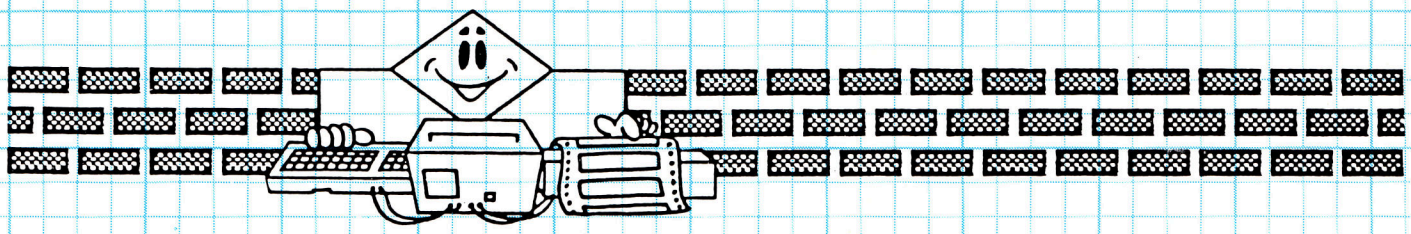
```
510 NEXT A:PRINT A$;
520 GOSUB 710
530 ENT 1,5,-1,1
540 IF INKEY(67)=0 THEN D=1
550 IF INKEY(69)=0 THEN D=2
560 IF INKEY(34)=0 THEN D=3
570 IF INKEY(27)=0 THEN D=4
580 X=X+(1 AND D=2)-(1 AND D=1):Y=Y+(1 AND D=4)-(1 AND D=3)
590 LOCATE Y,X:CALL 30000:C=PEEK(29999)
600 IF C=92 THEN SOUND 1,100,5,15,0,1:P=P+5:GOSUB 740
610 IF C=91 OR C=64 THEN GOSUB 640
620 LOCATE Y,X:PEN 3:PRINT"@"
630 GOTO 540
640 REM ::: PIERDE VIDA :::
650 V$=MID$(V$,2,3)
660 FOR A=100 TO 1 STEP -2:SOUND 2,A,1,15,0,0,31:NEXT A
670 GOSUB 710
680 X=1+INT(RND*20):Y=1+INT(RND*39)
690 LOCATE Y,X:CALL 30000:IF PEEK(29999)=92 THEN RETURN
700 GOTO 680
710 PEN#1,1:LOCATE #1,1,1:PRINT#1,"PUNTOS:";USING "######";P:PEN#1,3:LOCATE #1,3
0,1:PRINT #1,V$;" ";
720 IF LEN(V$)=0 THEN PEN#1,2:PRINT#1,"R.I.P.":GOTO 850
730 RETURN
740 PEN#1,1:LOCATE #1,8,1:PRINT#1,USING "######";P:RETURN
750 REM ** CODE SCREEN$ **
760 DATA 205,96,187,50,47,117,201
770 RESTORE 760
780 FOR a=30000 TO 30006:READ b:POKE a,b:NEXT a
790 GOTO 800
800 SYMBOL AFTER 32
810 SYMBOL 64,60,102,223,191,191,255,126,60
820 SYMBOL 92,0,0,24,44,60,24,0,0
830 SYMBOL 91,0,239,239,239,0,254,254,254
840 RETURN
850 REM *** GAME OVER ***
860 FOR A=1 TO 20:FOR B=100 TO 200 STEP A:SOUND 1,B,1,15,0,0,31:NEXT B:NEXT A
870 INK 0,0:INK 1,26:INK 2,15,0:PAPER 0:BORDER 0:PEN 1:MODE 0
880 PEN 2:LOCATE 6,7:PRINT"GAME OVER"
890 PEN 1:LOCATE 4,12:PRINT"PUNTOS:";USING "######";P
900 PEN 3:INK 3,15:LOCATE 5,17:PRINT "OTRA? (S/N)"
910 FOR A=1 TO 50:A$=INKEY$:NEXT A
920 PEN 1
930 IF INKEY(60)=0 THEN RUN 250
940 IF INKEY(46)=0 THEN CALL 0
950 GOTO 930
```



DIBUJO

```
10 REM ******** DIBUJO ********
20 REM * ANGEL GARCIA DELGADO *
30 REM ******* G.T.S. *********
40 REM
50 m=1:GOSUB 430:GOSUB 620
```

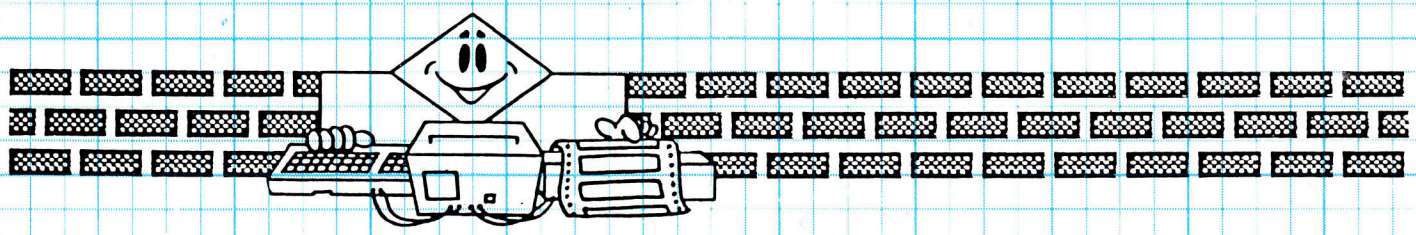
```
60 FOR A=0 TO 15:INK A,A:NEXT A
70 PAPER 0:BORDER 0:INK 1,26:MODE m
80 n=(1 AND m=2)+(2 AND m=1)+(4 AND m=0):I=1:INK 1,26:PEN 1
90 ORIGIN 0,0
100 METE=20100:SACA=20150
110 X=320:Y=210:xb=x:yb=y
120 IF INKEY(0)=0 OR INKEY(72)=0 THEN Y=Y+2
130 IF INKEY(2)=0 OR INKEY(73)=0 THEN Y=Y-2
140 IF INKEY(8)=0 OR INKEY(74)=0 THEN X=X-n
150 IF INKEY(1)=0 OR INKEY(75)=0 THEN X=X+n
160 CALL &BC59,1:TAG:MOVE X,Y:PRINT CHR$(160);:MOVE X,Y:PRINT CHR$(160);:CALL &B
C59:TAGOFF
170 IF INKEY(71)=0 OR INKEY(76)=0 THEN PLOT X-n,Y-8:xb=x-n:yb=y-8
180 IF INKEY(47)=0 THEN PLOT xb,yb:DRAW X-n,Y-8:xb=x-n:yb=y-8
190 IF INKEY(68)=0 THEN GOSUB 210
200 GOTO 120
210 CALL mete:FOR a=1 TO 20:a$=INKEY$:NEXT a:WINDOW #0,1,20,20,25
220 CLS:INPUT "COMANDO:";C$
230 c$=UPPER$(c$)
240 B$=MID$(C$,1,2):A$=MID$(C$,3,LEN(C$)-2)
250 PRINT"OK.";B$;",";A$
260 FOR A=1 TO 800:NEXT A
270 IF B$="SA" THEN CALL SACA:SAVE A$,B,49152,16384:SOUND 1,200:CALL METE
280 IF B$="LD" THEN LOAD A$,49152:SOUND 1,100:CALL METE
290 IF B$="MO" THEN M=VAL(A$):MODE M:n=(1 AND m=2)+(2 AND m=1)+(4 AND m=0)
300 IF B$="BO" THEN BORDER VAL(A$)
310 IF b$="TI" THEN MOVE X,Y,VAL(A$)
320 IF B$="DT" THEN INPUT "COLOR:";CO:INK VAL(A$),CO
330 IF B$="CI" THEN R=VAL(A$):GOSUB 380
340 IF B$="CL" THEN CALL SACA:CLG:CALL METE
350 IF b$="IN" THEN GOSUB 430
360 REM
370 CALL SACA:RETURN
380 REM -CIRCULO-
390 CALL SACA:DEG:XO=X-N:YO=Y-8:ORIGIN XO,YO:FOR A=0 TO 360 STEP 10
400 B=A-10:PLOT R*COS(B),R*SIN(B)
410 DRAW R*COS(A),R*SIN(A)
420 NEXT A:ORIGIN 0,0:CALL METE:RETURN
430 PEN 1:INK 1,26:MODE 2
440 PRINT"--- DIBUJO --- AUTOR: ANGEL GARCIA DELGADO --- G.T.S. --- 1986 -------
----------"
450 PRINT:PRINT"* MOVIMIENTO LAPIZ, CON LAS TECLAS DEL CURSOR"
460 PRINT:PRINT"* Z. DIBUJA UN PUNTO"
470 PRINT:PRINT"* SPACE. TRAZA UNA LINEA DESDE EL ULTIMO PTO. TRAZADO HASTA LA P
OSICION ACTUAL"
480 PRINT:PRINT"* TAB. ACCEDE AL MODO COMANDO, DONDE DISPONES DE LAS SIGUIENTES
INSTRUCCIONES:"
490 PRINT:PRINT"      MO X. FIJAR EL MODO DE PANTALLA (0,1 o 2)"
500 PRINT"      TI X. SALECCIONA LA TINTA EN CURSO (0-15),(0=BORRAR)"
510 PRINT"      CI X. TRAZA UN CIRCULO, CON CENTRO EN EL CURSOR Y RADIO X"
520 PRINT"      DT X. DEFINE EL TINTERO DE LA PLUMA X"
530 PRINT"      SA NOMBRE. GRABA LA PANTALLA CON EL NOMBRE 'NOMBRE'"
540 PRINT"      LD NOMBRE. CARGA UNA PANTALLA"
550 PRINT"      CL. BORRA LA PANTALLA"
560 PRINT"      BO X. PONE EL BORDE DEL COLOR X"
570 PRINT"      IN. IMPRIME ESTA PAGINA DE INSTRUCCIONES"
580 REM
590 PRINT:PRINT:PRINT"-------------------  PULSA -S- PARA CONTINUAR ------------
-------------------------"
600 IF INKEY(60)<>0 THEN 600
610 MODE M:RETURN
620 REM SUBRUTINAS C.M.: S-9000 L-9045 I-20100 O-20150
630 DATA 17,0,79,33,0,192,1,0,64,237,176,201
640 RESTORE 630:FOR a=20100 TO 20111:READ b:POKE a,b:NEXT a
650 DATA 17,0,192,33,0,79,1,0,64,237,176,201
660 RESTORE 650:FOR a=20150 TO 20161:READ b:POKE a,b:NEXT a
670 SYMBOL AFTER 160:SYMBOL 160,0,0,15,63,227,63,15,0
680 RETURN
```



LA MANZANA ENVENENADA

```
10 REM *** LA MANZANA ENVENENADA ***
20 REM *** ANGEL GARCIA DELGADO ****
30 REM ********** G.T.S. ***********
40 REM
50 SYMBOL AFTER 160
60 SYMBOL 160,60,6,59,113,1,29,63,103
70 SYMBOL 161,0,0,0,0,0,120,252,254
80 SYMBOL 162,111,95,95,127,127,63,30
90 SYMBOL 163,254,254,254,254,254,252,120,0
100 MODE 0:INK 0,24:INK 1,0:INK 2,6:INK 3,18
110 BORDER 24:PAPER 0:CLS
120 ORIGIN 320,200
140 FOR A=0 TO 2*PI STEP PI/50
150 PLOT 0,0,3:DRAWR COS(A)*300,SIN(A)*180
160 NEXT A
170 PRINT CHR$(22)+CHR$(1)
180 PEN 1
190 LOCATE 8,13:PRINT"MANZANA"
200 FOR A=1 TO 1000 STEP 4:SOUND 1,A,1,15,0,0,31:NEXT A
210 INK 3,18,24
220 FOR A=1 TO 1000 STEP 5:SOUND 1,A,1,15:SOUND 2,A+10,1,15:SOUND 3,1000-A,1,15:
NEXT A
230 a$=CHR$(160)+CHR$(161)+CHR$(10)+CHR$(8)+CHR$(8)+CHR$(162)+CHR$(163)
240 INK 3,18
250 MODE 1
260 PEN 1
270 PRINT "<< LA MANZANA ENVENENADA >> << A.G.D. >>"
280 PRINT:PRINT:PRINT"VE COMIENDOTE LAS MANZANAS DEL CESTO..."
290 PRINT:PRINT"PERO SOLO LAS MADURAS, YA QUE SI MUERDES"
300 PRINT"UNA QUE ESTE VERDE PERDERAS!!!."
310 PRINT:PRINT:PRINT"PARA ELEGIR LAS MANZANAS INTRODUCE"
320 PRINT:PRINT"PRIMERAMENTE LA FILA, Y LUEGO LA COLUMNA"
330 FOR A=1 TO 39 STEP 4:PEN 2:LOCATE A,20:PRINT A$;:PEN 3:PRINT A$:NEXT A
340 INK 2,6,18:INK 3,18,6
350 IF INKEY$="" THEN 350
360 INK 2,6:INK 3,18
370 MODE 1:P=0:DIM M(8,5)
380 PEN 1
390 FOR A=1 TO 10:M(1+INT(RND*8),1+INT(RND*5))=2
400 NEXT A
420 MODE 1
430 ORIGIN 0,200
440 PLOT 0,150,1:DRAWR 700,0
450 PLOT 0,-150:DRAWR 700,0
460 WINDOW #1,12,35,9,19
470 PEN#1,1
480 LOCATE 12,7:PRINT"A B C D E F G H"
490 B$="1 2 3 4 5 "
500 FOR X=1 TO 10 STEP 2
510 PEN 1:LOCATE 10,X+9:PRINT MID$(B$,X,1)
```

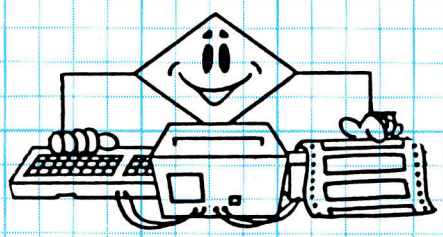
```
520 FOR Y=1 TO 16 STEP 2
530 PEN 1:LOCATE#1,Y,X
540 PRINT#1,A$
550 NEXT Y:NEXT X
560 WINDOW #2,10,40,24,24
570 PEN#2,1
580 P=0
590 GOSUB 740
600 SOUND 1,200,20,15
610 INPUT #2,"  FILA (1-5):";F
620 IF F<1 OR F>5 THEN SOUND 1,400,50:GOTO 610
630 INPUT #2,"COLUMNA (A-H):";C$
635 C$=UPPER$(C$)
640 B$="ABCDEFGH"
650 C=0:FOR A=1 TO LEN(B$)
660 IF C$=MID$(B$,A,1) THEN C=A
670 NEXT A:IF C=0 THEN SOUND 1,400,50:GOTO 630
680 B=M(C,F)
690 IF B=2 THEN PEN#1,3:GOSUB 730:SOUND 1,400,50:GOTO 750
700 IF B=0 THEN M(C,F)=1:P=P+5:PEN#1,2:GOSUB 730:FOR A=1 TO 1000 STEP 10:SOUND 1
,A,1,15:NEXT A
710 IF B=1 THEN SOUND 1,400,200:GOTO 610
720 GOTO 590
730 LOCATE #1,C*2-1,F*2-1:PRINT #1,A$:RETURN
740 LOCATE 14,2:PRINT "PUNTOS:";P:RETURN
750 FOR A=400 TO 0 STEP -1:SOUND 1,A,1:NEXT A
760 FOR C=1 TO 8:FOR F=1 TO 5
770 N=M(C,F):IF N=0 OR N=1 THEN PEN#1,2
780 IF N=2 THEN PEN#1,3
790 GOSUB 730
800 SOUND 1,100,5
810 FOR N=1 TO 50:NEXT N
820 NEXT F:NEXT C
830 PRINT #2," *** GAME OVER ***"
840 FOR A=1 TO 5000:NEXT A:RUN 220
```

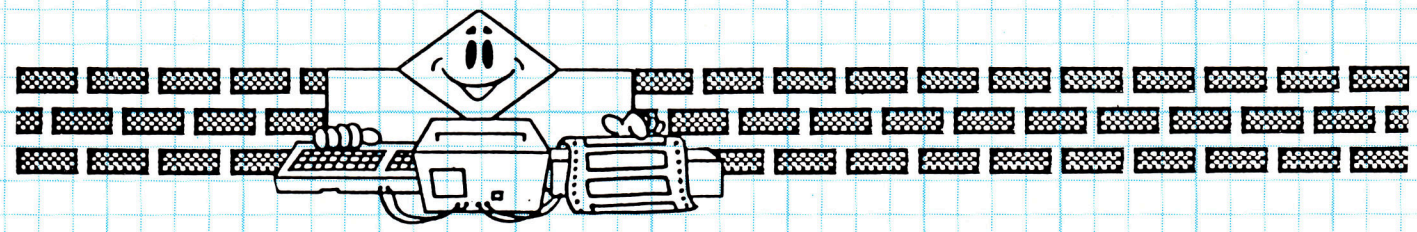


SOGA

```
10 REM ******************************
20 REM **** SOGA *** 1986 G.T.S. ***
30 REM **** ANGEL GARCIA DELGADO ***
40 REM ******************************
50 GOSUB 500
60 SYMBOL AFTER 199
70 SYMBOL 200,0,7,15,13,14,7,0,31
80 SYMBOL 201,0,224,64,96,64,192,0,0
90 SYMBOL 202,32,37,34,33,126,227,185,207
100 SYMBOL 203,128,0,132,123,129,126,0,128
```

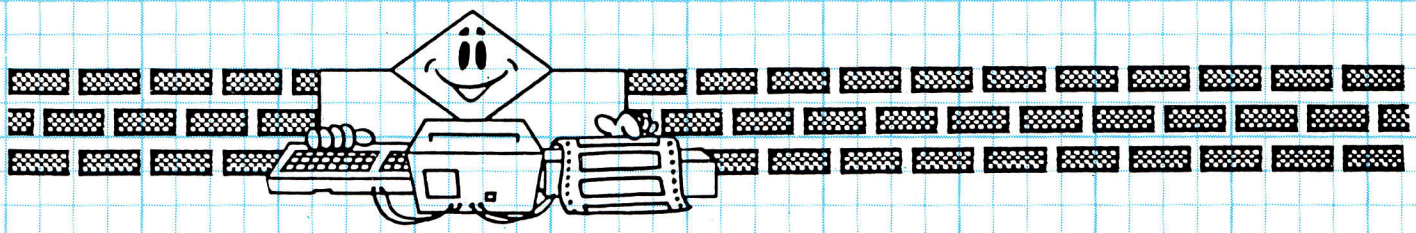
```
110 SYMBOL 204,192,195,225,80,48,104,161,3
120 SYMBOL 205,0,160,208,232,104,208,232,244
130 SYMBOL 206,0,7,2,6,2,3,0,0
140 SYMBOL 207,0,224,240,176,112,224,0,248
150 SYMBOL 208,1,0,97,222,129,126,0,1
160 SYMBOL 209,4,164,68,132,126,199,157,243
170 SYMBOL 210,0,5,11,23,22,11,23,47
180 SYMBOL 211,3,195,135,10,12,22,133,192
190 SYMBOL 212,0,0,0,119,238,0,0,0
200 BORDER 26:MODE 1:INK 0,26:INK 1,0:INK 2,15:INK 3,3
210 WINDOW #1,2,39,2,2:PEN #1,1:PAPER #1,0:CLS #1
220 PAPER 0:PEN 1
230 A$=" "+CHR$(200)+CHR$(201)+"          "+CHR$(206)+CHR$(207)+" "
240 C$="":FOR A=1 TO 9:C$=C$+CHR$(212):NEXT
250 B$=" "+CHR$(202)+CHR$(203)+C$+CHR$(208)+CHR$(209)+" "
260 C$=" "+CHR$(204)+CHR$(205)+"          "+CHR$(210)+CHR$(211)+" "
270 T=2:LOCATE 1,5:FOR A=1 TO 200:PRINT CHR$(231);:PEN T:T=T+1:IF T>3 THEN T=2
280 NEXT A
290 PLOT 0,145:DRAWR 0,100:DRAWR 630,0:DRAWR 0,-100:DRAWR -630,0
300 FOR A=0 TO 130 STEP 4:PLOT 0,a:DRAWR 630,0:NEXT a
310 PLOT 0,399:DRAWR 633,0:DRAWR 0,-40:DRAWR -633,0:DRAWR 0,40
320 PEN 1
330 PRINT #1,"            PREPARADOS...":SOUND 1,478,100,15
340 FOR A=1 TO 1000:NEXT
350 PRINT #1,"              LISTOS...":SOUND 1,400,100,15
360 FOR A=1 TO 1000:NEXT
370 PRINT #1,"        !!!!! ADELANTE !!!!!"
380 SOUND 1,100,50,15
390 x=12
400 IF INKEY(67)=0 THEN X=X-1:IF X=4 THEN G=1:GOTO 450
410 LOCATE X,13:PRINT A$:LOCATE X,14:PRINT B$:LOCATE X,15:PRINT C$
420 IF INKEY(27)=0 THEN X=X+1:IF X>19 THEN G=2:GOTO 450
430 LOCATE X,13:PRINT A$:LOCATE X,14:PRINT B$:LOCATE X,15:PRINT C$
440 GOTO 400
450 PRINT #1,"           GANA EL JUGADOR";G
460 INK 2,15,3:INK 3,3,15
470 FOR A=0 TO 500 STEP 2:SOUND 1,A,1,15:A$=INKEY$:NEXT A
480 IF INKEY$=""THEN 480
490 RUN 60
500 INK 0,26:INK 1,0,8:INK 2,1
510 BORDER 26:MODE 0
520 PEN 1
530 PRINT "******* SOGA *******"
540 PEN 2:PRINT" ":PRINT"TIRA DE LA SOGA !!!"
550 PRINT" ":PRINT" GANARA EL JUGADOR"
560 PRINT" ":PRINT"QUE SE LLEVE LA SOGA"
570 PRINT" ":PRINT" ":PRINT"  Q. JUG IZQUIERDA"
580 PRINT" ":PRINT"  P. JUG. DERECHA"
590 PEN 1:PRINT" ":PRINT" ":PRINT"*********************"
600 PEN 2:PRINT" ":PRINT" ":PRINT"    ANGEL GARCIA D."
610 FOR B=1 TO 2
620 FOR A=1 TO 500
630 SOUND 1,A,1,15
640 SOUND 2,A+10,1,15
650 SOUND 3,500-A,1,15
660 NEXT A
670 NEXT B:RETURN
```





TRAGON

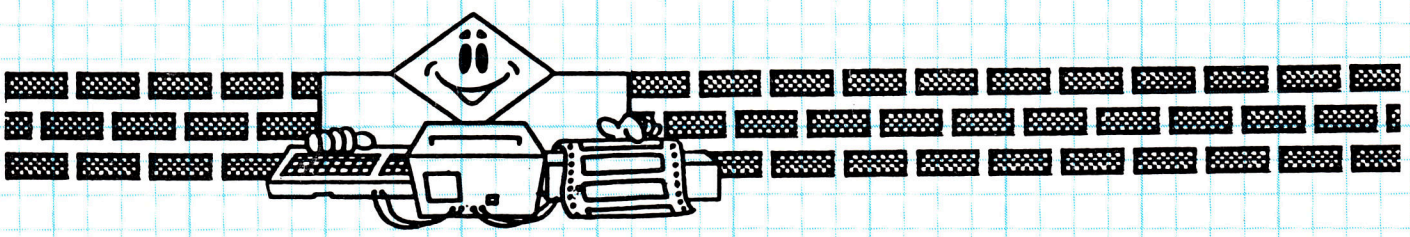
```
10 REM *************** TRAGON *****************
20 REM *** ANGEL GARCIA DELGADO ** G.T.S. *****
30 REM ****************************************
40 REM
50 SYMBOL AFTER 160
60 SYMBOL 160,36,102,239,237,239,255,126,60
70 SYMBOL 161,0,0,0,24,24,24,0,0
80 MODE 1
90 PRINT"****************************************** TRAGON * ANGEL GARCIA DELGADO
 * GTS ******************************************"
100 PRINT
110 PRINT" CAPTURA LAS BOLAS DE CARAMELO QUE CAEN"
120 PRINT:PRINT"  DE LA PARTE SUPERIOR DE LA PANTALLA."
130 PRINT
140 PRINT:PRINT:PRINT"                CONTROLES:"
150 PRINT:PRINT"          CURSOR <. IZQUIERDA"
160 PRINT:PRINT"          CURSOR >. DERECHA"
170 PRINT:PRINT:PRINT"****************************************"
180 FOR A=1 TO 6000:NEXT A
190 FOR A=1 TO 1000 STEP 3:SOUND 1,A,1:NEXT A
200 DEFINT a-z
210 MODE 0:A$=CHR$(160):B$=CHR$(161)+CHR$(8)+CHR$(11)+CHR$(32)
220 WINDOW#1,1,5,1,25
230 WINDOW#2,16,20,1,25
240 WINDOW 6,16,1,24
250 INK 0,0:BORDER 0:PAPER 0:CLS
260 INK 1,26:PEN 1:PEN#1,1:PEN#2,1
270 INK 2,4:PAPER#1,2:CLS#1:PAPER#2,2:CLS#2
280 LOCATE#1,1,3:PRINT#1," BOL":PRINT#1:PRINT#1," 0"
290 LOCATE#2,1,3:PRINT#2," PUN":PRINT#2:PRINT#2," 0"
300 P=0
310 X=5
320 FOR B=1 TO 20
330 LOCATE#1,1,5:PRINT#1,B
340 LOCATE#2,1,5:PRINT#2,P
350 H=1+INT(RND*10)
360 I=2
370 LOCATE X,23:PRINT" "
380 IF INKEY(8)=0 THEN X=X-1:IF X<1 THEN X=1
390 IF INKEY(1)=0 THEN X=X+1:IF X>10 THEN X=10
400 LOCATE X,23:PRINT A$;
420 LOCATE H,I:PRINT B$:I=I+1
430 IF I=23 THEN IF X=H THEN SOUND 1,100,10,15:P=P+1:GOTO 460
440 IF I>24 THEN SOUND 1,500,10,15:GOTO 460
450 GOTO 370
460 LOCATE H,I-1:PRINT" ":NEXT B
470 MODE 0
480 LOCATE 6,11:PRINT"GAME OVER"
490 LOCATE 5,13:PRINT"PUNTOS..";P
500 FOR A=1 TO 200
510 SOUND 1,A,5,15,0,0,31
520 NEXT A
530 RUN 50
```



AS DE CORAZONES

```
10 REM ****** AS DE CORAZONES ******
20 REM *** ANGEL GARCIA DELGADO ****
30 REM ********* G.T.S. *************
40 REM
50 MODE 0:INK 0,26:INK 1,0:INK 2,8
60 PAPER 0:BORDER 26:PEN 1:CLS
70 ORIGIN 316,200
80 DEG
90 FOR A=0 TO 360 STEP 5
100 PLOT 250*COS(A),40*SIN(A),2
110 DRAWR 50*COS(A),110*SIN(A)
120 SOUND 1,A,1,15
130 NEXT A
140 PRINT CHR$(22)+CHR$(1)
150 PEN 1
160 TAG
170 PLOT -235,6,1:PRINT "AS DE CORAZONES";:TAGOFF
180 INK 2,8,26
190 FOR A=0 TO 500
200 SOUND 1,A,1,15
210 SOUND 2,A+5,1,15
220 SOUND 3,500-A,1,15
230 NEXT A
240 FOR A=0 TO 1000:NEXT A
250 MODE 1
260 PRINT "****** AS DE CORAZONES **** A.G.D. *****"
270 PRINT " ":PRINT"   DESCUBRE CUAL DE ESTAS CARTAS ES"
280 PRINT" ":PEN 2:PRINT"           EL AS DE CORAZONES"
290 PEN 1:PRINT" "
300 PRINT "     PARA ELEGIRLA PULSA 1,2 o 3"
310 LOCATE 11,21:PRINT"1         2         3"
320 GOSUB 560
330 AC=0:FA=0:GOSUB 770
340 FOR N=1 TO 3:GOSUB 600:NEXT N
350 FOR A=1 TO 25:SOUND 1,100+RND*10,1,15:FOR B=1 TO RND*200:NEXT B:T$=INKEY$:NE
XT A
360 S=1+INT(RND*3)
370 IF S=1 THEN B$=CHR$(228):E$=CHR$(227):D$=CHR$(229)
380 IF S=2 THEN E$=CHR$(228):B$=CHR$(227):D$=CHR$(229)
390 IF S=3 THEN D$=CHR$(228):B$=CHR$(227):E$=CHR$(229)
400 SOUND 1,200,20,15
410 T$=INKEY$:IF T$="" THEN 410
420 IF T$<>"1" AND T$<>"2" AND T$<>"3" THEN SOUND 1,800,20,15:GOTO 410
430 T=VAL(T$)
440 N=T:IF T=1 THEN A$=B$
450 IF T=2 THEN A$=E$
460 IF T=3 THEN A$=D$
470 GOSUB 660:SOUND 1,20,20,15
480 FOR A=1 TO 500:NEXT A
490 IF T=S THEN GOSUB 880
500 IF T<>S THEN GOSUB 910
510 GOSUB 770
520 A$=B$:N=1:GOSUB 660
```

```
530 A$=E$:N=2:GOSUB 660
540 A$=D$:N=3:GOSUB 660
550 FOR A=1 TO 1500:NEXT A:GOTO 340
560 WINDOW #1,8,15,10,19
570 WINDOW #2,17,24,10,19
580 WINDOW #3,26,33,10,19
590 RETURN
600 LOCATE #N,1,1:PRINT #N,CHR$(150);CHR$(154);CHR$(154);CHR$(154);CHR$(154);CHR
$(154);CHR$(156)
610 C$=CHR$(149)+CHR$(207)+CHR$(207)+CHR$(207)+CHR$(207)+CHR$(207)+CHR$(149)
620 PRINT #N,C$:PRINT #N,C$:PRINT #N,C$:PRINT #N,C$:PRINT #N,C$:PRINT #N,C$:PRIN
T #N,C$:PRINT #N,C$
630 PRINT #N,CHR$(147);CHR$(154);CHR$(154);CHR$(154);CHR$(154);CHR$(154);CHR$(15
3)
640 SOUND 1,200,5,15
650 RETURN
660 LOCATE #N,1,1:PRINT #N,CHR$(150);CHR$(154);CHR$(154);CHR$(154);CHR$(154);CHR
$(154);CHR$(156)
670 PRINT#N,CHR$(149);"1";"     "+CHR$(149)
680 PRINT#N,CHR$(149);A$;"     "+CHR$(149)
690 PRINT#N,CHR$(149)+"      "+CHR$(149)
700 PRINT#N,CHR$(149)+"      "+CHR$(149)
710 PRINT#N,CHR$(149)+"      "+CHR$(149)
720 PRINT#N,CHR$(149)+"      "+CHR$(149)
730 PRINT#N,CHR$(149);"     ";A$;CHR$(149)
740 PRINT#N,CHR$(149);"     ";"1";CHR$(149)
750 SOUND 1,100,5,15
760 RETURN
770 LOCATE 6,25:PRINT"ACIERTOS:";AC:LOCATE 23,25:PRINT"FALLOS:";FA
780 IF FA>4 THEN GOTO 800
790 RETURN
800 REM *** FINAL ***
810 FOR A=0 TO 1000:SOUND 1,A,1:NEXT A
820 MODE 0
830 PEN 2
840 INK 2,15,8
850 LOCATE 6,12:PRINT"GAME OVER"
860 FOR A=1 TO 5000:NEXT A
870 RUN
880 AC=AC+1
890 FOR B=1 TO 10:FOR A=0 TO 26:SOUND 1,A,1,15:NEXT A:NEXT B
900 RETURN
910 FA=FA+1
920 SOUND 1,500,50,15
930 FOR A=500 TO 700:SOUND 1,A,1,15:NEXT A:RETURN
```

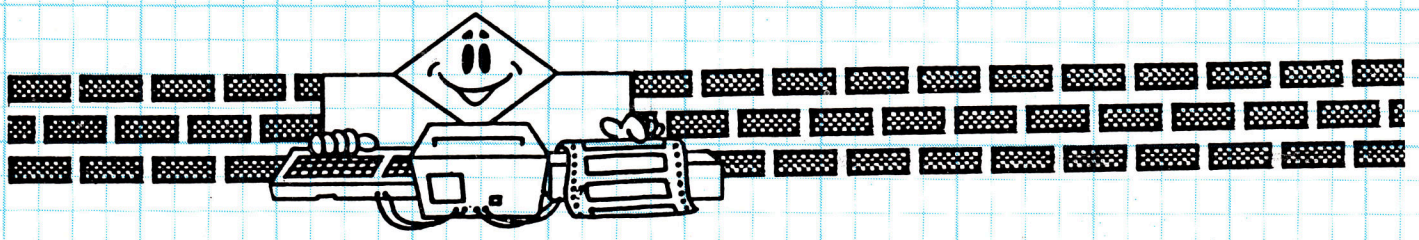


CLIMOGRAMA

```
10 REM ********** CLIMOGRAMA ************
20 REM *** ANGEL GARCIA DELGADO ********
30 REM ************  G.T.S. **************
```

```
40 REM
50 MODE 0:INK 0,26:INK 1,0:INK 2,8
60 PAPER 0:BORDER 26:PEN 1:CLS
70 ORIGIN 316,200
80 DEG
90 FOR A=0 TO 360 STEP 5
100 PLOT 170*COS(A),40*SIN(A),2
110 DRAWR 100*COS(A),80*SIN(A)
120 SOUND 1,A,1,15
130 NEXT A
140 PRINT CHR$(22)+CHR$(1)
150 PEN 1
160 LOCATE 6,13:PRINT "CLIMOGRAMA"
170 INK 2,8,26
180 FOR A=0 TO 500
190 SOUND 1,A,1,15
200 SOUND 2,A+5,1,15
210 SOUND 3,500-A,1,15
220 NEXT A
230 FOR A=0 TO 1000:NEXT A
240 MODE 1
250 PEN 1:PRINT "   ESTE PROGRAMA DIBUJA UNA GRAFICA"
260 PRINT" ":PRINT"      (";:PEN 2:PRINT"CLIMOGRAMA";:PEN 1:PRINT") CON LAS LLUVI
AS"
270 PRINT" ":PRINT"     Y TEMPERATURAS DE TODO EL ANNO"
280 PRINT" ":PRINT" ":PRINT"   EL GRAFICO DE BARRAS REPRESENTA"
290 PRINT" ":PRINT" LAS PRECIPITACIONES EN mm/m^2 (ROJO)"
300 PRINT" ":PRINT" ":PRINT" EL GRAFICO DE LINEAS (AZUL) REPRESENTA"
310 PRINT" ":PRINT" LAS TEMPERATURAS EN GRADOS CENTIGRADOS"
320 PRINT " ":PRINT " ":PRINT" ":PEN 2:PRINT "     INTRODUCE LOS DATOS. POR FAVOR
."
330 PEN 1:WINDOW #1,1,40,23,25
340 DIM D(12,2)
350 DATA ENERO,FEBRERO,MARZO,ABRIL,MAYO,JUNIO,JULIO,AGOSTO,SEPTIEMBRE,OCTUBRE,NO
VIEMBRE,DICIEMBRE
360 RESTORE 350
370 CLS#1:PRINT#1," ":PRINT#1,"************* TEMPERATURAS *************"
380 SOUND 1,200,100,15
390 FOR A=1 TO 1500:NEXT A
400 FOR A=1 TO 12:READ M$
410 CLS #1:PRINT #1,"TEMPERATURA DEL MES DE ";M$:PRINT#1," "
420 INPUT #1,D(A,1):IF D(A,1)<0 OR D(A,1)>55 THEN SOUND 1,478,50,15:GOTO 410
430 SOUND 1,200,5,15
440 NEXT A
450 CLS#1:PRINT#1," ":PRINT#1,"*********** PRECIPITACIONES ************"
460 SOUND 1,100,200,15:FOR A=1 TO 1500:NEXT A
470 RESTORE 350:FOR A=1 TO 12:READ M$
480 CLS#1:PRINT#1,"PRECIPITACIONES MES DE ";M$
490 PRINT#1," ":INPUT#1,D(A,2)
500 IF D(A,2)<0 OR D(A,2)>550 THEN SOUND 1,478,50,15:GOTO 480
510 NEXT A
520 MODE 1:INK 1,0:INK 2,6:INK 3,14
530 PEN 2:PRINT"MES:        TEMPERATURA: PRECIPITACIONES:"
540 PEN 1
550 RESTORE 350
560 M=0:P=0
570 FOR A=1 TO 12
580 READ M$:PRINT M$;TAB(13);D(A,1);TAB(26);D(A,2)
590 M=M+D(A,1):P=P+D(A,2)
600 NEXT A
610 PRINT " ":PEN 2:PRINT "MEDIA ANUAL: ";M/12
620 PRINT " "
630 PEN 3:PRINT "TOTAL PRECIPITACIONES: ";P
640 PRINT " ":PRINT" ":PRINT"PULSA -G- PARA VER LA GRAFICA >>>"
650 IF INKEY(52)<>0 THEN 650
660 SOUND 1,100,50,15
670 MODE 1
680 PEN 1
```

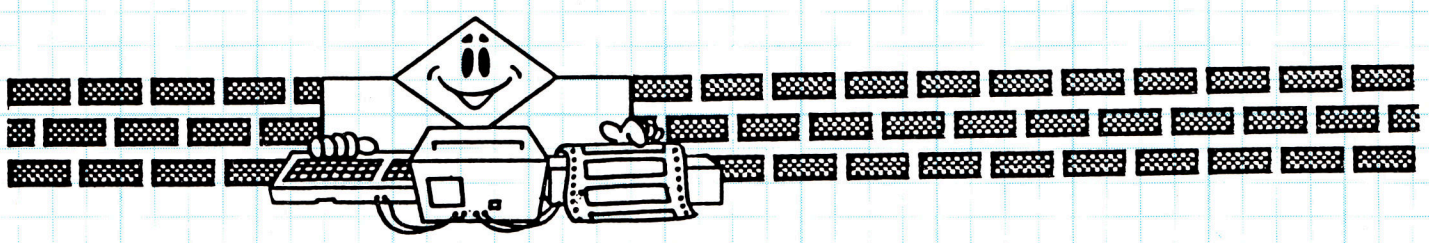
```
690 LOCATE 10,25:PRINT "E F M A M J J A S O N D"
700 ORIGIN 128,25
710 PLOT 0,0,1:DRAWR 0,350:PLOT 0,0
720 DRAWR 399,0:DRAWR 0,350
730 K=350/550:FOR A=0 TO 500 STEP 50
740 B=A*K
750 MOVE -70,B+4:TAG:PRINT A/10;:MOVE 420,B+4:PRINT A;:TAGOFF
760 PLOT -8,B:DRAWR 8,0:PLOT 400,B:DRAWR 8,0
770 NEXT A
780 PEN 3:LOCATE 3,2:PRINT "  'C":LOCATE 35,2:PEN 2:PRINT "mm/m^2"
790 ORIGIN 128,26
800 FOR A=1 TO 12
810 FOR B=0 TO D(A,2):PLOT (32*A)-24,B*K,2:DRAWR 28,0:NEXT B
820 NEXT A
830 X=24:Y=D(1,1)*10*K
840 PLOT X+1,Y,1:PLOT X+2,Y:PLOT X+3,Y
850 PLOT X+1,Y+2:PLOT X+2,Y+2:PLOT X+3,Y+2
860 FOR A=2 TO 12
870 X=(32*A)-8:Y=D(A,1)*K*10
880 DRAW X,Y,3
890 PLOT X+1,Y,1:PLOT X+2,Y:PLOT X+3,Y
900 PLOT X+1,Y+1:PLOT X+2,Y+1:PLOT X+3,Y+1
910 PLOT X+1,Y+2:PLOT X+2,Y+2:PLOT X+3,Y+2
920 NEXT A
930 LOCATE 13,1:PRINT "OTRA GRAFICA (S/N)"
940 IF INKEY(60)=0 THEN RUN 240
950 IF INKEY(46)=0 THEN CALL 0
955 A$=INKEY$
960 GOTO 940
```



DONUTS

```
10 REM ********** DONUTS ************
20 REM *** ANGEL GARCIA DELGADO *****
30 REM ********** G.T.S. ************
40 REM
50 FOR a=1 TO 15:INK a,26-a
60 NEXT a
70 INK 0,0:PAPER 0:BORDER 0
80 MODE 0
90 ORIGIN 320,200
100 FOR a=2 TO 15
110 FOR b=0 TO 2*PI STEP PI/5
120 PLOT 20*a*COS(b),20*a*SIN(b),a
130 DRAWR 50*COS (a),50*SIN(a)
140 DRAWR 50*SIN (a),50*COS(a)
150 DRAW 20*a*COS (b),20*a*SIN(b)
160 PLOT RND*320-RND*320,RND*200-RND*200
```

```
170 NEXT b
180 NEXT a
190 LOCATE 8,13:INK 1,26:PEN 1:PRINT CHR$(22)+CHR$(1);"DONUTS"
200 FOR a=2 TO 15
210 IF a>2 THEN INK a-1,0
220 INK a,26-a
230 FOR z=100 TO 200 STEP 10:SOUND 1,z,1,15:NEXT z
240 NEXT a
250 INK 15,0
260 IF INKEY$<>"" THEN GOTO 280
270 GOTO 200
280 INK 1,26:MODE 2:PEN 1
290 WINDOW 1,80,23,25
300 ORIGIN 320,200
310 SOUND 1,200,10
320 INPUT "ANCHURA DEL DONUTS (0-320):";AN
330 INPUT "ALTURA DEL DONUTS (0-150):";AL
340 INPUT "GROSOR (1-150):";G
350 INPUT "CONCENTRACION (1-200):";C
360 CLG
370 DEG
380 FOR M=0 TO 360 STEP C
390 X=AL*SIN(M):Y=AN*COS(M)
400 GOSUB 430
410 NEXT M
420 GOTO 310
430 DEG:MOVE X,Y+G:FOR A=0 TO 400 STEP 10
440 DRAW G*SIN(A)+X,G*COS(A)+Y:NEXT A:RETURN
```

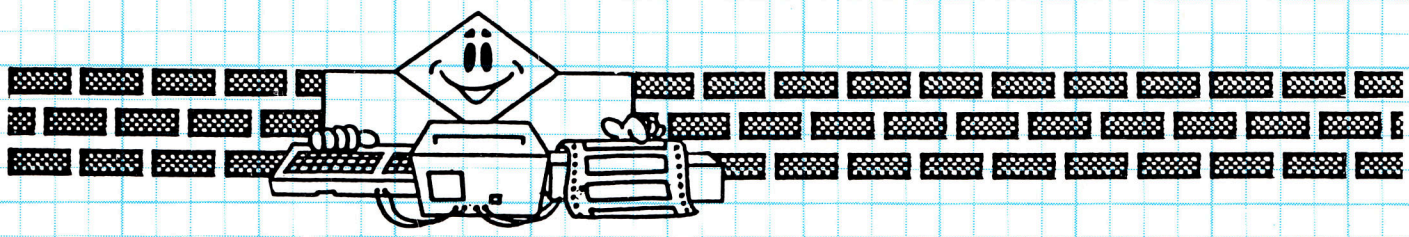


INSTRUMENTOS

```
10 REM ** INSTRUMENTOS **
20 REM *                *
30 REM ** ANGEL GARCIA **
40 REM *                *
50 REM **   G. T. S.   **
60 REM
70 INK 0,0:INK 1,26:INK 2,8
80 BORDER 0:PAPER 0:PEN 1
90 MODE 0
100 ORIGIN 310,200
110 FOR A=0 TO 2*PI STEP PI/50
120 PLOT 0,0,2:DRAW SIN(A)*(150+RND*180),COS(A)*(80+RND*160)
130 NEXT A
140 PRINT CHR$(22);CHR$(1)
150 SPEED INK 30,30
160 LOCATE 5,13:PEN 1:PRINT "INSTRUMENTOS"
170 INK 2,8,0
```

```
180 RESTORE 1030
190 READ A,B:IF A=-1 THEN GOTO 180
200 F=440*(2^(B/12)):T=ROUND(12500/F)
210 SOUND 1,T*5,A*10,15
220 SOUND 2,T*3,A*10,15
230 IF INKEY$<>"" THEN 250
240 GOTO 190
250 REM *** MENU ***
260 MODE 1
270 INK 3,11
280 INK 2,8
300 ORIGIN 0,0:DRAWR 600,0,1:DRAWR 0,399:DRAWR -600,0:DRAWR 0,-399
310 WINDOW 8,32,6,25
320 PRINT " ":PRINT" "
330 PEN 3:PRINT "**** ELIGE TU OPCION ****"
340 PRINT " "
350 PEN 1:PRINT "    1. CUESTIONARIO"
360 PRINT " "
370 PRINT "    2. LISTAR DATOS"
380 PRINT " "
390 PRINT "    3. TERMINAR"
400 PRINT " "
410 PRINT" "
420 PEN 3:PRINT"*************************"
430 IF INKEY(64)=0 THEN GOTO 470
440 IF INKEY(65)=0 THEN GOTO 890
450 IF INKEY(57)=0 THEN CALL 0
460 GOTO 430
470 REM **** CUESTIONARIO ****
480 MODE 1:INK 1,26:INK 2,20:INK 3,8
490 FOR P=1 TO 20
500 MODE 1:PEN 1:PRINT "********** LOS INSTRUMENTOS *************"
510 N=INT (RND*3)
520 IF N=0 THEN RESTORE 970
530 IF N=1 THEN RESTORE 990
540 IF N=2 THEN RESTORE 1010
550 READ R$,NN:NN=INT(RND*NN):FOR Z=0 TO NN:READ I$:NEXT Z
560 PEN 3:PRINT" "
570 PRINT"PREGUNTA:";P;TAB(17);"INSTRUMENTO:";I$
580 PRINT " ":PEN 2
590 PRINT " "
600 PRINT "A QUE GRUPO DE INSTRUMENTOS CORRESPONDE":PRINT " ":PRINT"        EL I
NSTRUMENTO CITADO:"
610 PRINT" ":PRINT" "
620 PEN 3:PRINT "            (PULSA 1,2 o 3)"
630 PEN 1:PRINT " "
640 PRINT" ":PRINT "                1. CUERDA"
650 PRINT" ":PRINT "                2. VIENTO"
660 PRINT" ":PRINT "                3. PERCUSION"
670 SOUND 1,100,10
680 REM
690 IF INKEY(64)=0 THEN NR=0:GOTO 730
700 IF INKEY(65)=0 THEN NR=1:GOTO 730
710 IF INKEY(57)=0 THEN NR=2:GOTO 730
720 GOTO 680
730 PEN 2:PRINT " ":PRINT" ":IF NR=N THEN PRINT "!!!CORRECTO!!! LA RESPUESTA ES
";R$:FOR B=1 TO 3:FOR A=15 TO 0 STEP -1:INK 0,A:SOUN
D 1,A,1:NEXT A,B:AC=AC+1
740 IF NR<>N THEN PRINT "INCORRECTO. LA RESPUESTA ERA ";R$:SOUND 1,600,100:FOR A
=1 TO 100:PLOT RND*600,RND*400:NEXT A
750 NEXT P
760 MODE 0:FOR A=1 TO 15:INK A,27-A:NEXT A
770 PEN 5:PRINT "**** RESULTADOS ****"
780 PRINT" ":PRINT" "
790 PEN 2:PRINT "  ACIERTOS.....";AC
800 PRINT " "
810 PEN 3:PRINT "  FALLOS.......";20-AC
820 PRINT" ":PRINT" ":PRINT" "
```

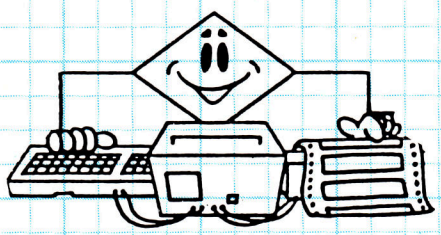
```
830 PEN 1:PRINT"  PORCENTAJE:";AC*5;"%"
840 PRINT" ":PRINT" ":PRINT" "
850 PRINT "*********************"
860 FOR A=0 TO 100:A$=INKEY$:SOUND 1,A,1,15:NEXT A
870 IF INKEY$=""THEN 870
880 GOTO 250
890 MODE 2:RESTORE 970
900 FOR A=1 TO 3
910 READ A$,N
920 PRINT "- INSTRUMENTOS DE ";A$;":":PRINT" "
930 FOR B=1 TO N:READ B$:PRINT "  ";B$,:NEXT B
940 PRINT" ":PRINT" ":PRINT " "
950 NEXT A
960 GOTO 860
970 DATA CUERDA,13
980 DATA VIOLIN,VIOLA,VILONCELO,CONTRABAJO,LAUD,GUITARRA,BANDURRIA,BANJO,ARPA,CI
TARA,CLAVECIN,ESPINETE,UKELELE
990 DATA VIENTO,23
1000 DATA FLAUTA,FLAUTIN,OBOE,DULZAINA,TENORA,CLARINETE,FAGOT,CARAMILLO,TXISTU,G
AITA,TROMPA,TROMPETA,CLARIN,TROMBON,CORNETA,FINGLE,B
UGLE,TUBA,CUERNO,SAXOFON,ORGANO,ARMONICA,ACORDEON
1010 DATA PERCUSION,14
1020 DATA TRIANGULO,PLATILLOS,CAMPANA,GONG,TAMBOR,BOMBO,TIMBAL,PANDERETA,MARACA,
PIANO,XILOFONO,CLAVICORDIO,CELESTE,MARIMBA
1030 DATA 8,4,4,5,4,7,4,7,4,5,4,4,4,2,4,0,4,0,4,2,4,4,8,4,2,2,8,2,8,4,4,5,4,7,4,
7,4,5,4,4,4,2,4,0,4,0,4,2,4,4,8,2,2,0,9,0
1040 DATA -1,-1
```



INVASION

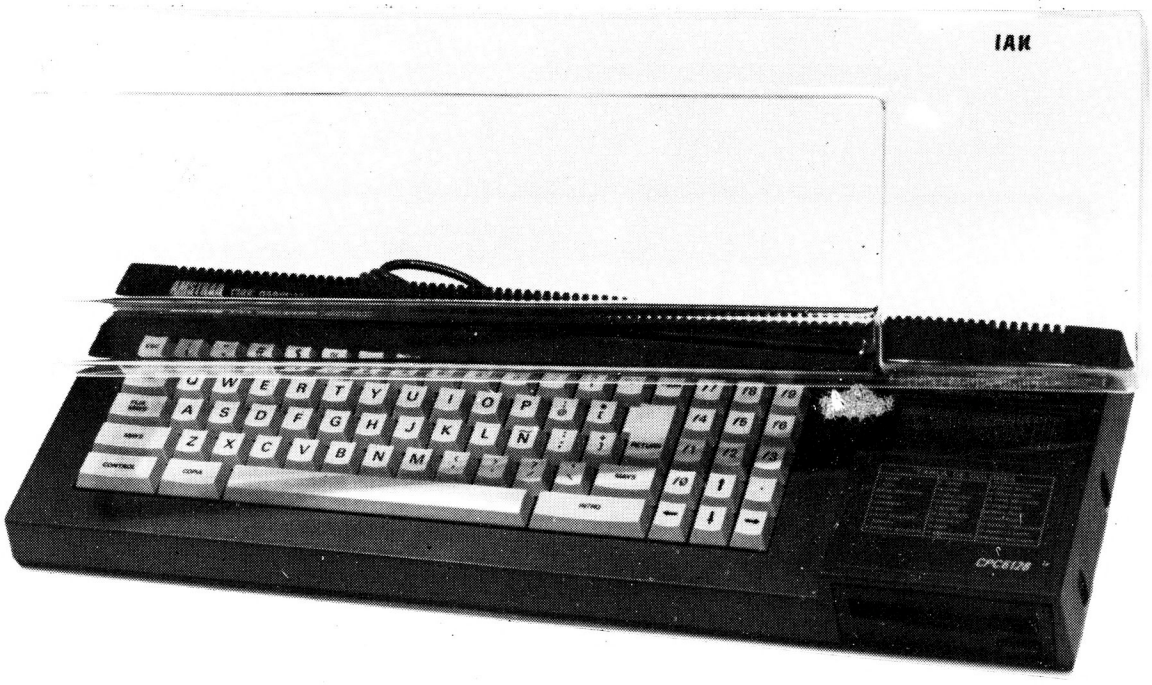
```
10 REM ********** INVASION *************
20 REM ****  ANGEL GARCIA DELGADO  ****
30 REM *********** G.T.S. **************
40 REM
50 SYMBOL AFTER 160
60 SYMBOL 160,252,132,246,251,255,254,252,252
70 SYMBOL 161,0,0,0,127,127,0,0,0
80 SYMBOL 162,66,36,126,153,153,126,60,231
90 SYMBOL 163,255,241,253,245,245,253,241,255
100 SYMBOL 164,73,146,73,146,73,146,73,146
110 MODE 0:INK 0,0:INK 1,26:INK 2,23:INK 3,8
120 PAPER 0:BORDER 0:PEN 1
130 CLS
140 ORIGIN 0,0:FOR A=0 TO 600 STEP 5:PLOT A,RND*400,1+INT(RND*15):NEXT A
150 LOCATE 7,12:PRINT "INVASION"
160 FOR A=1 TO 1000 STEP 10:SOUND 1,A,1,15:NEXT A
170 INK 1,26,0
180 FOR A=300 TO 0 STEP -1
```

```
190 SOUND 1,A,1,15:SOUND 2,A+10,1,15:SOUND 3,RND*200,1,15
200 NEXT A:INK 1,26
210 FOR A=15 TO 0 STEP -1:SOUND 1,200,100,A,0,0,31:NEXT A
220 MODE 1:INK 0,0:INK 1,26:INK 2,23:INK 3,8
240 FOR A=0 TO 600 STEP 5:PLOT A,RND*400,1:NEXT A
250 PEN 1
260 LOCATE 13,2:PRINT "<< INVASION >>"
270 PEN 3
280 LOCATE 1,5:PRINT "DESTRUYE A LOS INVASORES ANTES DE QUE SE"
290 LOCATE 1,7:PRINT "APODEREN DE TU BARRERA DE ENERGIA IONICA"
300 PEN 2
310 LOCATE 15,10:PRINT "CONTROLES:"
320 PEN 1
330 LOCATE 13,13:PRINT" TAB. ARRIBA"
340 LOCATE 13,15:PRINT" CAPS. ABAJO"
350 LOCATE 13,17:PRINT"ENTER. DISPARO"
360 LOCATE 5,22:PEN 3:PRINT "PULSA -S- PARA COMENZAR A JUGAR"
370 IF INKEY(60)<>0 THEN 370
380 MODE 1
390 PEN 1
400 DIM M(10)
410 ORIGIN 0,240
420 C=25
430 FOR A=0 TO 640 STEP 5:PLOT A,RND*150,1:NEXT A
440 FOR A=0 TO 640:C=C+9*RND-9*RND:PLOT A,0,2:DRAWR 0,ABS(C):NEXT A
450 FOR A=12 TO 21:LOCATE 2,A:PEN 1:PRINT CHR$(164)
460 PEN 3:LOCATE 39,A:PRINT CHR$(162)
470 M(A-11)=39:NEXT A
480 LOCATE 2,11:PRINT CHR$(163)
490 LOCATE 2,22:PRINT CHR$(163)
500 WINDOW #1,1,40,24,24
510 GOSUB 650
520 X=17
530 B$="":FOR A=1 TO 16:B$=B$+CHR$(161):NEXT A
540 LOCATE 3,X:PRINT " "
550 IF INKEY(68)=0 THEN X=X-1:IF X<12 THEN X=12
560 IF INKEY(70)=0 THEN X=X+1:IF X>21 THEN X=21
570 PEN 1:LOCATE 3,X:PRINT CHR$(160);
580 IF INKEY(18)=0 THEN GOSUB 660
590 PEN 2:N=1+INT(RND*10)
600 PEN 3
610 M(N)=M(N)-2:LOCATE M(N),N+11:PRINT CHR$(162);"  "
620 IF M(N)<2 THEN GOTO 710
630 GOTO 540
640 END
650 PRINT#1,"PUNTOS:";P:RETURN
660 PEN 2:PRINT B$
670 FOR A=1 TO 100 STEP 10:SOUND 1,A,1,15:NEXT A
680 IF M(X-11)<20 THEN M(X-11)=39:SOUND 2,200,10,15,0,0,30:P=P+5:GOSUB 650
690 LOCATE 4,X:PEN 0:PRINT B$
700 RETURN
710 FOR a=1 TO 100:SOUND 2,a,1,15,0,0,30:NEXT a
720 MODE 0
730 PEN 2:INK 2,17,0:LOCATE 6,7:PRINT"GAME OVER"
740 PEN 1:LOCATE 5,13:PRINT"PUNTOS:";P
750 FOR A=1 TO 1000:A$=INKEY$:NEXT A
760 RUN 210
```



NOVEDADES

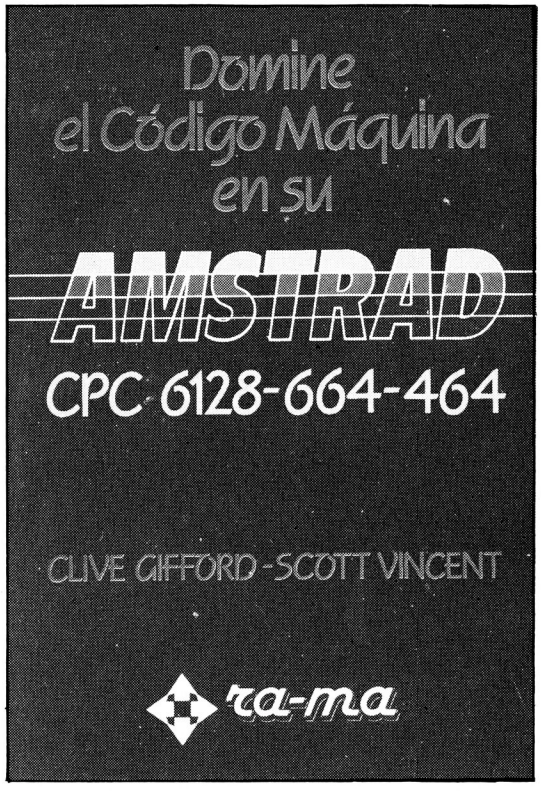
IAN KEY-COVER



IAN KEY-COVER, ES EL PROTECTOR IDEAL PARA EL TECLADO DE SU AMSTRAD 6128 ESPECIALMENTE DISEÑADO PARA REUNIR TODAS LAS CARACTERISTICAS ADECUADAS PARA ELLO:

- PROTECCION FIRME DEL TECLADO DEL CPC 6128 (REALIZADO CON RESISTENTE METACRILATO DE UNA SOLA PIEZA CON NERVIOS LATERALES PARA FIJACION EN EL REBORDE DEL CONJUNTO DE SU ORDENADOR).
- AJUSTE PERFECTO EN SU ORDENADOR CON SUAVE PRECISION Y COBERTURA TOTAL.
- TRANSPARENTE (CONFIRIENDOLE LA PROPIEDAD DE VISUALIZAR EN TODO MOMENTO SU TECLADO).
- PROTECCION CONTINUA CONTRA ELEMENTOS EXTERNOS (COMO: DERRAMES DE LIQUIDOS, GOLPES, ETC.) ADEMAS DE GOZAR DE LA SEGURIDAD DEL BUEN FUNCIONAMIENTO DE SU ORDENADOR AL REANUDAR SU DIARIO QUEHACER. UN POCO DE CAFE DERRAMADO SOBRE SU TECLADO ELEVARA ENORMEMENTE EL PRESUPUESTO ANUAL DE SU ORDENADOR. EVITE EL RIESGO, PROTEJASE.
- RESGUARDO PERMANENTE CONTRA EL POLVO Y LA POLUCION (EL 50 % DE LAS AVERIAS DE SU TECLADO SON MOTIVADOS POR EL CONTACTO CONSTANTE DE ESTE CON EL POLVO Y LAS PARTICULAS ATMOSFERICAS, EL EXCESO DE HUMEDAD, ETC.). ELIMINE UN RIESGO CONTINUO, DOSIFIQUELO.
- MANTENGALO LIMPIO SU AMSTRAD 6128, CUBRIENDOLO CON IAN KEY-COVER.
- DELE AL TECLADO DE SU AMSTRAD 6128 ESA SENSACION DE PULCRITUD, SENTIDO DEL ORDEN Y APARIENCIA EXTERNA QUE SU AREA DE TRABAJO, ESTUDIO O ENSEÑANZA, REQUIERE.

BIBLIOGRAFIA

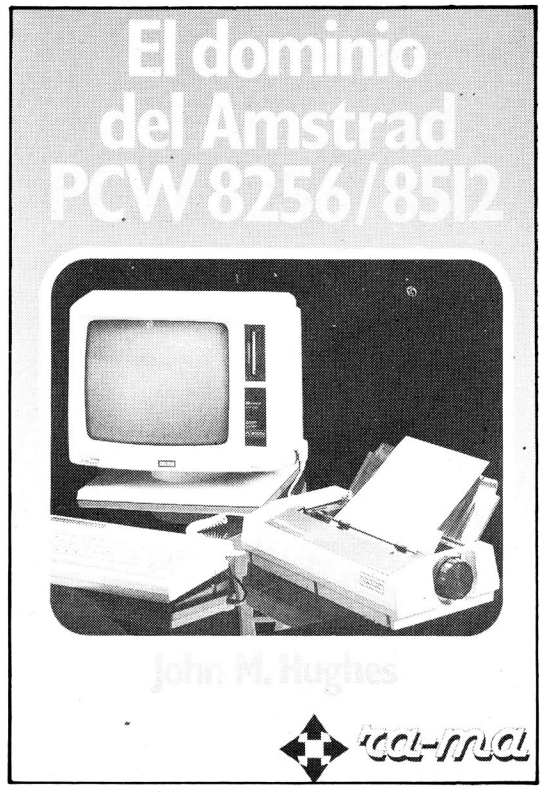


EL DOMINIO DEL AMSTRAD PCW 8256/8512

"El dominio del Amstrad PCW 8256/8512" le sitúa en la vía rápida hacia el éxito en los negocios. Lo mismo si está Vd. empezando a utilizar uno de estos ordenadores, como si está considerando comprárselo, este libro le mostrará rápidamente cómo rentabilizar al máximo su inversión.

Una gran parte del libro trata del proceso de texto.

Esta parte del libro es un medio didáctico excelente, que le conducirá desde los usos más sencillos del proceso de textos, a los más avanzados. Una sección aparte cubre el uso de NewWord, la potente alternativa de NewStarSoftware.



DOMINE EL CODIGO MAQUINA EN SU AMSTRAD

Ahora tiene la oportunidad de aprender a programar en código máquina en su ordenador Amstrad. Clive y Scott —dos programadores muy competentes, con gran experiencia en libros y software a sus espaldas— son los guías ideales para ayudarle a comprender las interioridades de la programación en código máquina del Amstrad.

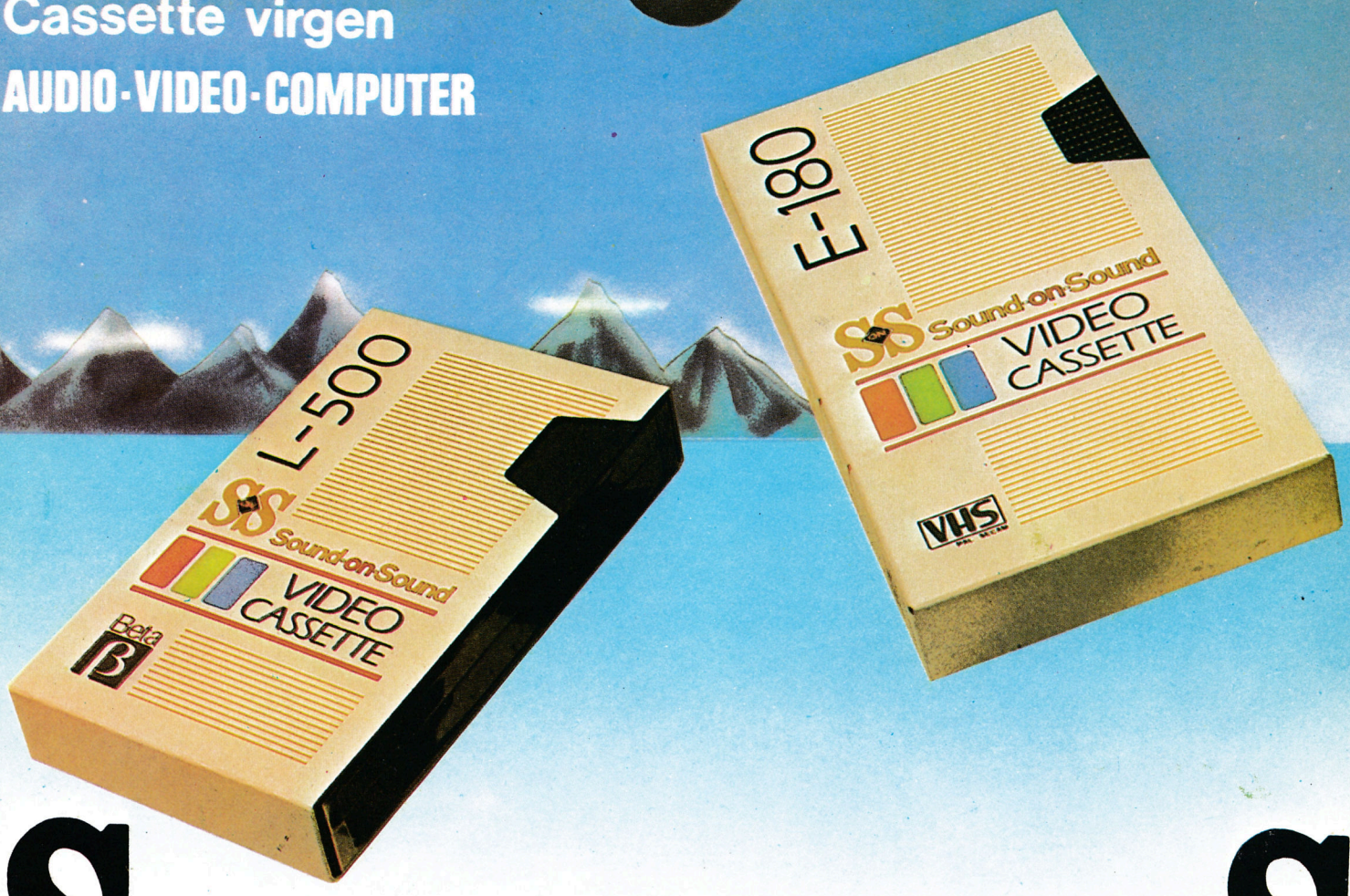
Debe ir trabajando en código máquina del Amstrad.

Debe ir trabajando a lo largo del libro, saltándose las secciones que le presentan una especial dificultad la primera vez que las lea. Cuando haya terminado su primera lectura, tendrá los suficientes conocimientos como para poder comprender aquellas secciones que dejó sin completar la primera vez que pasó por ellas.

Sound-on-Sound

Cassette virgen

AUDIO-VIDEO-COMPUTER



SUS MEJORES RECUERDOS

CURSO DE BASIC + MICROORDENADORES

prácticas con...

Microordenador ZX SPECTRUM

Microordenador COMMODORE

Microordenadores AMSTRAD, MSX, PC

Para saber cómo hablar con los ordenadores

El Curso CEAC a Distancia, BASIC + Microordenadores, le va a introducir paso a paso, con un cuidado método, en uno de los temas más apasionantes de nuestros días: **la programación de ordenadores.**
Al aprender PRACTICANDO desde un principio a programar BASIC, lenguaje diseñado especialmente para dar los primeros pasos en programación, estará sentando las bases para el estudio de cualquier otro lenguaje de alto nivel.

Curso CEAC de BASIC + Microordenadores: un diálogo permanente con el ordenador.

Otros Cursos:
- Introducción a la Informática
- Electrónica (con experimentos)
- Contabilidad
- Fotografía
- Curso de Video
- Decoración

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Sí, deseo recibir a la mayor brevedad posible información sobre el Curso de: _____

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